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Blu-ray  
p78**

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Bolt from  
Blu? See  
Panny's  
NeoPDP on  
P48 and  
Bolt the  
movie on  
P101

# WELCOME

Plasma TV technology has drawn the short straw of late, with some high profile supporters withdrawing from the market and the LCD hordes rolling out LED backlit sets to considerable effect. But Panasonic believes it can reinvigorate the technology with its new NeoPDP panel. And having spent some time with the new Z1 (P48), I think it's right. **This is a remarkable new plasma screen, beautiful to look at and with a surprisingly low power consumption.** I'd argue that plasma has long given the most cinematic of flatscreen images, and this screen ups the ante.

I didn't think it would be too long before we saw the UK's first supermarket Blu-ray player, but Aldi's teutonic Tevion DVD1100 has a cute trick. Not only is it cheap, but with a simple hack it can be made to switch regions! Turn to P78 for more!

Enjoy the show!

*Steve May*  
Editor

## TEAM HCC

**Steve May:**  
The UK's most experienced  
AV Editor with 20+ years as  
a CE journo on his clock



**Anton van Beek:**  
News Ed Anton began his  
pro-videophile career over  
a decade ago



**Mark Craven:**  
HCC's Production Editor is  
not only a movie obsessive,  
he can read shorthand



**Rik Henderson:**  
HCC's Dep Ed is an AV  
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former TV presenter



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Our ISF-calibrated Tech  
Labs manager is the former  
Editor of *Total DVD* mag



**John Rook:**  
Art Editor John first worked  
on HCC back in 1999, when  
TVs were made of wood





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- Panasonic TX-L32G10
- Philips 32PFL9613
- Samsung LE32B650
- Toshiba 32AV635

## TECH LABS

### Our guarantee to you:

Equipment reviewed in Home Cinema Choice is measured and quantified by Future Tech Labs, which for more than 15 years has set the standard for independent AV test & measurement. The findings of the Tech Labs are used to underpin the subjective opinions of our Reviews team, ensuring that you receive the best-possible advice when it comes to planning your next purchase



## CO-STARRING

This issue's team of expert writers are the best qualified in the business

**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



**Alvin Gold:**  
One of the UK's most experienced and respected hi-fi and audio experts



**Richard Stevenson:**  
Industry veteran and former Editor of UK CE trade journal ERT



**Jim Hill:**  
Apple fanatic Hill is the former editor of T3 Home and a What Hi-Fi escapee



**Jon Thompson:**  
Post-production specialist whose film credits include Casino Royale and Kill Bill



**Martin Pipe:**  
Technology specialist Martin co-developed HCC's Tech Lab operation





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# BULLETIN

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**3D PROJECTION** Optoma debuts stereoscopic DLP **DENON** A new era of affordable BD  
**BIGSCREEN LED** The world's first DLP LED home cinema projector **CRANK 2: HIGH VOLTAGE** Time to pre-order this gonzo action sequel! **DEMO'D** Time to crank up *Punisher: War Zone*



## SACD meets Blu-ray

Marantz UD9004 → [www.marantz.com](http://www.marantz.com)

Marantz's AV battleship fuses the technology behind the brand's flagship SA-7S1 Super Audio CD player with Profile 2.0 Blu-ray performance to create the 'ultimate' universal disc-spinner. Scheduled to arrive in the UK in August, priced around £5,500, the UD9004 is built around the broadcast-quality Silicon Optix Realta video processor and can separate audio and video signals via dual HDMI outputs to deliver the purest results possible. Stay tuned for our test drive...

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# Unleash the emotion

Denon DBP-2010 BD Player  
www.denon.co.uk



## Partner with...

**Optoma ThemeScene HD86**  
Full HD projector  
£5,000 approx



To get the most of your Blu-ray's picture performance you'll want the biggest image possible. So why not invest in a high-quality projector, like Optoma's latest 1080p DLP model? It features 700:1 ANSI contrast ratio, 1,600 ANSI lumens brightness, PureMotion2 picture technology and two HDMI's.  
[www.themescene.tv](http://www.themescene.tv)

Denon may have been a little late out of the Blu-ray starting blocks, but it's playing catch-up fast. The latest BD spinner to be announced is the mid-range DBP-2010 (pictured here atop the forthcoming AVR-1910 receiver). Despite a more competitive £600 price tag than its previous decks, Denon hasn't skimped on the high-performance tech, with Anchor Bay video processing, Profile 2.0 functionality and 7.1 channel analogue audio outputs....



## Monitor Audio unleashes Vector



Just below the Radius HD in the company's speaker line-up, Monitor Audio's new Vector

range comprises the V10 wall-mounting satellite (£150 per pair), the V20 centre-channel (£100) and the VW-8 compact 100W active subwoofer (£200). The V10 and V20 both use a 4inch bass driver with MMPII cones and a 1in gold C-CAM dome tweeter. As an optional bass upgrade for larger rooms, the V10 and V20s can be matched with the existing 250W Radius HD370 subwoofer (£500).

## Onkyo raises the AVR bar



Onkyo claims that its two new THX Select2 Plus-certified 7.2-channel receivers are 'the best specified

AV receivers that have ever been available at their price points'. Hyperbole perhaps, but its past record is impressive. At around £700 and £800 respectively the 7x 160W TX-SR707 and 7x 180W TX-NR807 offer Audyssey DSX and Dolby Pro-Logic IIz decoding, Faroudja DCDi Cinema video processing and ultra-low jitter Burr-Brown 192kHz/24-bit DACs. The NR807 also offers DLNA networking.

## Picture perfect



JVC's professional division bowed its first LED-backlit LCD monitor at the recent UK CEDIA Expo with

the promise of a consumer TV to follow. The super-thin £2,000 Xiview LT-42WX70 uses edge-LED illumination while its PhotoPro function is fine-tuned to display digital stills at their highest quality. There's also 52 tweaks to fine-tune images, including individual colour management of skin tones, making this one of the most versatile Full HD displays on the market, and one to audition for those with a hankering for tinkering.

# World's first LED DLP PJ

Innovative model challenges 3-chip DLP rivals for half the cost

Vivitek has launched the first DLP projector to use a trio of LED modules instead of a lamp for a light source. As a result, the H9080FD can deliver ultra-high contrast images with wide-gamut colour, Instant On (no warm-up period), a long-lifespan, quoted at 20,000 hours and no colour fringing (aka the DLP 'rainbow effect'), because there's no need for a colour wheel.

James Hue, from Vivitek, told *HCC*: 'The PhlatLight LED module we use is fast and accurate, and offers much better colour than that from LCD.' De-interlacing and general image processing comes via a Gennum processor. Connectivity and control includes two HDMI 1.3 inputs, component, composite and S-video, VGA and RS-232. Hue says an anamorphic lens and sled will become available in due course.

However, you'll need a sizeable theatre to accommodate it. Tipping the scales at 16kg, and with the dimensions of a small ottoman, the H9080FD is a bit of a beast. 'The size and weight is largely down to the heatsinks which are used to cool the projector,' explains Hue. 'There are six fans but they move very slowly to gently expel hot air. That's why the projector is so quiet. We quote an operational noise of just 26dB.'



**'The size of the PJ is down to the heatsinks and fans,' says Vivitek's James Hue 'but it keeps things quiet.'**

*HCC* previewed the revolutionary projector, running through *Quantum of Solace* and *Transformers* on Blu-ray, and came away from our session impressed. In use, we found the image to be very contrasty (despite a low quoted light output of 800 lumens), with punchy, accurate reds. Texas Instruments' Dynamic Iris technology promises a contrast ratio of 100,000:1.

According to Vivitek's, two more conventional single-chip DLP models will join the brand's line-up this autumn. Both aimed at AV fans, one will be priced at a highly competitive £1,000, with a step-up high-end model coming in at around £5,000.

In the DLP projector hierarchy, the H9080FD appears to find itself up against three-chip 720p and 1080p models both in terms of size and performance. Yet with an expected list price of £10,995, it comes in at half the price.

LED is rapidly becoming a hot topic in the DLP projector community.

Norwegian specialist

projectiondesign has a competing model and DLP market leaders Sim2 are also in the game. Sim2's James Buckle told *HCC*: 'Our LED projector is in the final stages of development.'

**Hush:** Vivitek's beast runs at a mere 26dB >



## Playlist...

Team *HCC* reveals its Playback picks of the last month



### 1 The Take (R2 DVD)

Brutal, bold and brilliantly played, this is the best British gangster series since *The Paradise Club*. A bare bones release but well worth checking out. *Steve May*

### 2 Persepolis (Region B Blu-ray)



This superb animated adaptation of Marjane Satrapi's graphic novel is

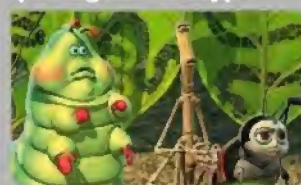
uncannily poignant with its focus on the 1970s' Iranian Revolution. *Rik Henderson*

### 3 Hotel for Dogs (R2 DVD)



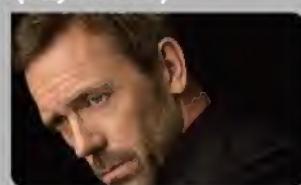
I'm a real sucker for pooches in flicks, and this is a hotbed of movie mutt action. There goes my street cred. *Mark Craven*

### 4 A Bug's Life (All region Blu-ray)



Not my favourite Pixar film by any measure, but the 1080p picture quality on this All-region US Blu-ray is mind-blowing. *Anton van Beek*

### 5 House: Season Five (Sky One HD)



The doctor is in and groucher and more sarky than ever before as *House* finds a new home on Sky One. *John Rook*



## Demo'd!

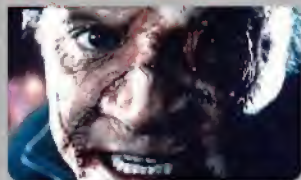
The AV highlights of...  
*Punisher: War Zone* on Blu-ray

### Back in black



**07:19:** Test your display's calibration when the Punisher whacks mob boss Uncle G. First, for the inky blacks as he cuts the lights, then for deep reds as he illuminates the room with a flare.

### A stitch in time



**31:12:** Jigsaw is no looker following his accident at a glass recycling plant, but this close-up of his mangled face reveals a wealth of fine detailing in the stitching and scars that the AVC 2.40:1 encode handles with ease.

### Messy business



**59:27:** The clarity of the Dolby TrueHD 5.1 audio is heard in this sequence where the Punisher shoots a goon in the head at close range. It sounds like an over-ripe watermelon struck by a sledgehammer and it feels like you're sitting at the heart of every splat and drip.

### Shoot 'em up



**82:50:** As rival criminal gangs take each other out, a tool-up Punisher turns up to save the day. The resulting six minutes of relentless carnage ensure the lossless audio is positively bristling with positional effects and thumping bass.

# BD to lose component out

It's digital-only for HD video signals according to new regulations

HD analogue component outputs on Blu-ray players are to be phased out during 2010, and all analogue outputs will disappear by 2013. That's the main effect of the final draft of the Advanced Access Content System (AACs) specification, recently released by the AACs Licensing Administrator.

AACs is a compulsory part of the Blu-ray specification, which all licensees must implement. It controls the way in which Blu-ray content is encoded, and is a central plank of the agreement between the movie studios and BD player makers.

Until now, there has been an 'analogue hole' in the content protection system, as the interim specification allowed Blu-ray HD to be used with TVs that lack HDMI connections. It's this analogue hole which is now being filled, with the removal of the HD progressive scan options from component video outputs. After it comes into effect on December 31, 2010, we will be left with 480i and 576i via component video, and composite and S-video outputs. By 2013 end, all analogue outputs will vanish.

In an exclusive interview with HCC, the AACs LA's primary spokesman Michael Ayers described the process as 'Not just a suggestion – this is the analogue sunset. The idea is to recognise the 'analogue hole', that HD analogue content is vulnerable to unauthorised copying, and to phase it out as people move naturally to digital. The world is moving that way anyway, as it offers better picture and sound, and other flexibility,

so let's take advantage of the evolution.'

So could there be a surge of buying before analogue-free BD players are launched? 'Once manufacturers sign the AACs licences, there is a grace period before the new requirements come in,' explained Ayers. 'But we don't anticipate any sort of panic buying. There could be some who are interested in retaining earlier functionality, that happens with any number of technology transitions – but we're looking at taking advantage of an evolution that is already occurring, as people look forward to new features such as BD live.'

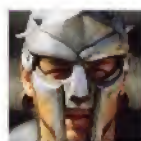
Ayers went on to say that speculation that the Blu-ray format may have a limited shelf-life was no real concern to the AACs LA. 'We're a technology that supports various formats, primarily BD at the moment, and AACs is glad to support that, but AACs is designed to be extensible, so if there is a next generation hardware format or a downloading method, it's very likely that AACs will support that.'

The other significant feature of the final draft specification is the implementation of the 'managed copy' feature that was missing from the interim spec. This should allow Blu-ray disc users to make digital copies of high definition media for their computers or mobile devices – as long as the movie studios choose to make the option available.

**Vanishing trick:** The component outs on this Blu-ray player will soon be a thing of the past



## Glad tidings



Get ready to cross another title off your 'Most Wanted Blu-rays' list, as Universal Pictures

has confirmed that it will be releasing the long awaited *Gladiator* in the UK on September 7. Universal seems to have pulled out all of the stops with this one, putting together two BD50 discs featuring both the Oscar-winning theatrical and extended cuts of the film. Also included are all of the extras from the old three-disc DVD box set, plus new U-Control material for both the film itself and the feature-length documentary included on the second BD disc!

## Jesus vs Vikings



Now this is the kind of high concept film that gets the HCC team excited, no matter how nuts the concept sounds. *Outlander* stars Jim Caviezel as a space man who crashes on Earth during the reign of the Vikings, bringing with him a deadly alien monster. The film didn't make much of a splash at the cinema, but is sure to find a more appreciative audience when Momentum Pictures brings it to DVD and Blu-ray in the UK on August 31. Extra material includes a commentary, *Making of...* featurette, deleted scenes and more.

## Set faces to stunned




Thank heavens for JJ Abrams' re-imagining of *Star Trek*. While the rest of this year's mega-hyped summer blockbusters were mostly turkeys, *Star Trek* was the one film that delivered spectacle, excitement and a storyline that didn't insult the intelligence. And it looks like it's going to make a kick-ass Blu-ray title when it beams into stores in early October. Rumoured specs include 1080p video, Dolby TrueHD 5.1 soundtrack, an audio commentary, 24 featurettes, nine deleted scenes, a gag reel, a BD-Java Starfleet simulator, four trailers and BD-Live content.



# Return of the Stath

Crank 2: High Voltage → Lionsgate  
→ R2 DVD & Region B Blu-ray

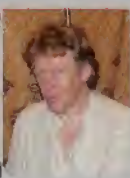


Lionsgate has confirmed an Autumn UK Blu-ray release for *Crank 2: High Voltage*, which should please fans of extreme action and grindhouse mayhem. Both the BD and DVD hit the shelves on September 14, with the latter packed with plenty of bonus goodies, including a directors' commentary, *Making of...* doc, *Crank'd Out* BonusView Mode, gag reel and more. Pre-order your copy now – or Jason Statham's angry hitman will be after you...



## Pick'n'mix

Pat Mills, 'the godfather of British comics' and creator of science-fiction title *2000AD*, picks his five fave DVDs



### 1 The Third Man

I watch this on average three times a year and I'm still looking for reasons to watch it more.

### 2 Michael Collins

An Irish friend said she wanted to meet Michael Collins in Heaven more than her husband. He really had that much charisma.

### 3 Entourage

This comedy series is a great blokes' fantasy. It's also based on the LA film agency I'm with, but I can assure you it's not true!

### 4 Shoot 'Em Up

Excellent comic book-style. Most comic books aren't this cool.

### 5 Reilly Ace of Spies

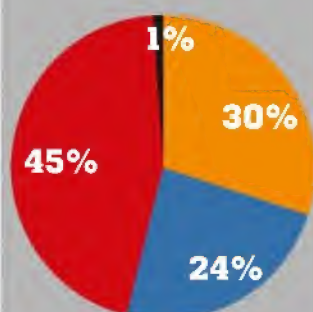
They don't make TV series like this any more. No dumbing down and superb attention to detail.

Visit [www.2000adonline.com](http://www.2000adonline.com) this August and pick up copies of Pat Mill's latest graphic novels, including *A.B.C. Warriors: The Volgan War, Vol.1*, *Flesh and Defoe 1666*

## We asked...

Do you have, or plan to make, a dedicated home cinema AV room...

- Yes, I've made a room just for movies and music!
- I'm planning on constructing a viewing room
- No, we still use the front room
- I'll watch movies anywhere, on any device – I'm not bothered



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more hot polling action

# Optoma's new dimension

3D home entertainment technology is expected by December

Optoma has thrown its weight behind 3D display technology with its first compatible projector.

Demonstrated at CEDIA 2009, and sat inside the casing of a HD65, the as-yet unnamed device is due out before the year end. It can project stereoscopic 3D images without needing a separate lens or conjoined unit. Viewers wear dedicated active stereoscopic glasses with shuttered LCD lenses to get the three-dimensional effect, but it's a highly effective method, especially in comparison to rival anaglyphic technologies that use red and blue lenses.

However, the glasses don't come cheap. They synchronise with the projector so you won't need a separate IR receiver and will be compatible with future Optoma projectors, but will cost approximately £50 a pair.

Justin Halls, the company's Senior Product Manager, believes the cost of the high-spec specs is justified. For him, shuttered lenses are vital whatever the price: 'Anaglyphic 3D uses the old blue and red filter glasses, which give very poor colour reproduction and a rather fuzzy image.

Polarised 3D systems use passive glasses that give very good image quality and are low cost, however, two projectors are generally required, making this an expensive and impractical system for home use.

'The Optoma 3D Ready system uses one projector and DLP-Link



Good image quality at a low cost epitomises Optoma's approach to 3D projectors according to Justin Halls

active LCD shutter glasses. This gives fantastic image performance and is extremely easy to use. Also, with this system the projector can be used for normal movie watching as well as 3D.'

It's also a way of keeping the projector cost down. The first model is expected to sell for less than £500. It will be HD Ready only, with a native resolution of 1280 x 720, but that's partly due to the nature of the stereoscopic content that's available. It would be pointless to launch with a Full HD, fully-specified device if there's nothing to run on it yet.

'As soon as a 3D Blu-ray format is agreed, and there have been steps towards this in recent months, I anticipate that major movie titles will be made available in 3D soon afterwards,' explains Halls. Until then the projector's prime use will be for gaming: 'Currently there are hundreds of

PC game titles that will work in Stereoscopic 3D.'

But it's the home cinema application of the technology that we await with bated breath. Halls sums it up: 'Who wouldn't want life-size, three-dimensional images of Angelina Jolie in their front room?'



Optoma's unnamed 3D projector uses the same casing as the HD65

## Popcorn goes Blu



When it comes to media servers you can't do much better than the Popcorn Hour A-100

Networked Media Tank. But this looks set to change with the imminent arrival of the company's Popcorn Hour C-200. The package now adds an RF remote control, multi-line LCD display and gigabit Ethernet, but most significantly a slot designed for a Blu-ray drive, allowing you to transform the unit into a complete media solution. However, due to DRM issues, don't expect to rip Blu-rays to a built-in hard-drive. Although UK pricing hasn't been confirmed, we expect the C-200 to retail for around £200.

## Cideko unveils 'wireless bridge'



Cideko has launched the two-piece Air Sender package, a wireless video sender/streamer able to send

hi-def video and audio from source to screen. By adding extra client receivers, the same signal can be routed to multiple screens. It uses real-time encode/decode technology over an 802.11n wi-fi link. Front mounted USB ports allow playback of AV content from sticks and external drives. Video file format support covers WMV, AVI and Mpeg 2/4. While the streamer only transmits up to 720p or 1024 x 768, the receiver upscales all sources to 1080p and outputs them via HDMI.

## Cello introduces SD PVR TVs



As well as sporting integrated DVD players, Cello Electronics' new HD Ready LCD TVs have

PVRs that store programming on external SD cards. Instead of using an internal HDD, each TV has a side-mounted SD card slot. Compatible memory cards of various sizes can be used to store recordings that can also be backed-up on a PC or Mac. The TVs also have two tuners, so two shows can be recorded at the same time, although capacity is obviously limited to the size of the card used. The screens come in 22in, 26in and 32in sizes and prices start at around £400 for the smallest model.



This month's top ten news stories in handy, bite-sized chunks...



## 1 Finger-slim LED

Over in Korea, Samsung has unveiled a new 23in Full HD LED-backlit monitor that not only requires 40 per cent less power and can produce more vibrant colours, but which the Korean press release claims is 'finger-slim'. This probably relates more to the slender fingers of the Korean lady pictured above than the chunky digits of your typical tech journo.

## 2 Is tosh turning blu?

Will Toshiba now back Blu-ray? The smart money says 'Yes', after company chairman Atsutoshi Nishida hinted to shareholders in Tokyo that 'It makes no sense to decide not to enter the Blu-ray market simply because we lost the format war. We cannot change the fact that we lost.'

## 3 At the Sharp end

The US is reportedly close to banning imports of LCD TVs made by Sharp. The move hinges on a patent dispute between Sharp and TV rival Samsung, with the US International Trade Commission ruling in favour of Samsung, declaring that Sharp LCD displays violate at least one of its patents.

## 4 Re-classified!

The BBFC has revised its Classification Guidelines. There are too many to list here (visit [www.bbfc.co.uk](http://www.bbfc.co.uk) for the full list), but HCC was amused by the one concerning sexual innuendo in 12A-rated films like *Norbit* and *Epic Movie*. We reckon anything that keeps crap like that from a larger audience is a good thing.

## 5 Freeview HD

Freeview managing director Ilse Howling has stated that Freeview HD will be available to half of all UK homes for the 2010 World Cup, with the number rising to 60 per cent (approximately 16 million households) by the

following Christmas. The Freeview chief also confirmed that work was progressing on a next-generation Freeview box, able to offer BBC iPlayer and other VOD services

## 6 Movie merger

Three of the world's most famous movie studios may merge elements of their DVD operations. Execs from 20th Century Fox, Paramount and Sony Pictures are reportedly discussing combining DVD production and distribution in an effort to save money.

## 7 Save the planet

Sony claims that it has managed to reduce its global CO2 emissions by approximately 100,000 tons over the last financial year. This follows several company-wide environmental initiatives. 'European operations have reduced CO2 emissions by approximately 90 per cent between 2000 and 2008,' added the Japanese company.

## 8 Pioneer hearts Sharp

S-LCD, Pioneer and Sharp have finally contracted to create a new joint-venture company to develop Blu-ray and other optical disc products. First mooted back in April, the joint-venture, with the snappy title Pioneer Digital

Design and Manufacturing Corporation, begins operations on October 1.

## 9 BD-Live gets IMDB wannabe

We've been waiting years for a good BD-Live application, and it looks like Sony Pictures might have finally come up with the goods. The company recently announced MovieQ, a new real-time movie database full of trivia and cast/crew info that can be accessed while watching some films on Blu-ray. MovieQ will roll out with the Blu-ray release of *Angels & Demons* on September 14.

## 10 Turn off, say 'wow'

A recent Sky+HD advertising campaign has left potential customers baffled, as its three-step instructions can draw a blank with viewers. The campaign, the tag-line for which is 'Are you sure you're watching in high definition?' points out that having an HD ready TV doesn't automatically get you high-definition channels or an HD picture. It goes on to give instructions that if followed will leave customers staring at a blank screen.

The ad tells consumers to 1.

Turn off your HD ready TV, 2.

Connect a Sky+HD box to it, and 3. Say 'wow!'



## Premiere

HCC's guide to what's happening in the world of TV and films...

### Hired gun



Does anybody really want to see another lame *Hitman* movie? Well, some deluded studio exec at 20th Century Fox seems to think so, as they've only gone and hired a writer to knock out a script for the damned thing!

### Stoppable

Sticking with Fox, the studio has reportedly put the brakes on Tony Scott and Denzel Washington's ironically titled runaway train thriller *Unstoppable* due to budgetary concerns.

### Where-wolf?

An American *Werewolf in London* is the latest horror classic to be targeted for 're-invention'. Dimension Films is keen to revamp the franchise, possibly with a series of films about said werewolf turning up in different locations around the world. They must be howling mad.

### More Basterds?



Producer Harvey Weinstein has already been talking about the possibility of a sequel to Tarantino's latest, claiming, 'Brad wants to do *Inglorious II*. We all want to do it. And the movie hasn't even come out yet! But unfortunately I can't give away the plot.'

### Double-up

The Academy Awards are going through a bit of a shake up at the moment. From next year there will be not five, but ten nominees for the Best Picture category. Great, that's even more DVDs that'll have massive 'Nominated for Best Picture' banners plastered all over their sleeves.



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# POINT OF VIEW

**Richard Stevenson** is shocked and delighted that a mass market electronics retailer is singing the virtues of home cinema

**M**y world is all about movies.' It was a one-liner on a TV commercial and it could just be the saviour of home cinema as we know it. Over breakfast mid-week, in front of 11.4m people, I watched in slack-jawed astonishment as PC World leapt headlong into a market that most of the big High Street chains have put on the back burner. With a bold message explaining how great home cinema is and how PC World can ease you into it with the minimum of hassle, the ad wheels out Christian Slater, saying: 'It's just like being at the movies. All I need is a popcorn maker now.'

Even in the middle of breakfast, I was forced to stand up and salute PC World. The commercial didn't follow the formulaic style of promising great deals on discount TVs, or 'buy now pay later' schemes. It focused on the benefits of home cinema, the excitement, the passion and the family experience: 'The special effects, the sound, they blew me away. I download loads of movies on my PC, and my wife always says, "Why can't we watch this on the TV?"' So I went to PC World and they showed me how to stream movies from my computer in the study to my TV in the living room – wirelessly. They also installed a home cinema system for me. It's amazing.'

Okay, I have no idea why our floppy-haired narrator turns inextricably into Christian Slater for one line or why his wife scarily has the same male voice, but even I can forgive the fickle whims of advertising execs in this instance. As maligned in last issue's *Point of View*, the world has gone vision-centric, the yooof of today hasn't any interest in home cinema and families feel home cinema systems are simply too big or too complex. The PC World advert tackles this mass market malaise head on, selling the sizzle of home cinema excitement above the sausage of discounted AV products. Inspired, audacious and deserving of much success.

With much gusto, I drove to Tunbridge Wells and bounded into PC World's superstore for a hearty dose of home cinema enthusiasm – and Christian Slater's autograph on an old copy of *HCC*, if possible. Unfortunately, by the time the concept had got to the shop floor the sizzle had somewhat fizzled. There was a reasonable display of low-end home cinema package systems from the likes of Panasonic, LG, and Sony, and in terms of customer service I can't fault the two staff I spoke to. Both were helpful, friendly, and reasonably clued-up to the top-line benefits.

But it all went a bit awry when I asked some deep and meaningful questions – the sort any punter might ask if he/she did a bit of 'net-surfing for home cinema info before heading to the store. Can I stream the new HD audio formats from my PC to an AV amplifier? I've heard about HDMI v1.4 – what benefits will that bring and should I wait? Does this system support 24p video with x.v.colour? Actually, what the hell is x.v.colour? **I didn't get any quick-response answers but people were dispatched to find out**, the home install offer was fully explained and I got a brilliant tip about using shareware to rip my Blu-rays to hard disk.

Perhaps my questions were a bit nasty for a retailer going the extra mile to bring the benefits of home cinema to the mass market. PC World is investing advertising budget, shop-floor space and staff training on bringing the average man in the street a converged home entertainment solution. It might not be high-end, nor come with the polished presentation or technical expertise of a specialist store, but it could well re-ignite mainstream enthusiasm for movies and surround sound at home. And for that reason I love PC World. And I never thought I would see the day I wrote that ●

For more of Richard Stevenson's ramblings log on to [www.homecinemachoice.com/points\\_of\\_view](http://www.homecinemachoice.com/points_of_view)

**Richard Stevenson** is still hoping someone can explain what x.v.colour is, and if it's any better than Garnier Nutrisse Cream Permanent







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Beyerdynamic  
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Bose  
Boston Acoustics  
Case Logic  
Castle  
Cinemax  
Creek  
CyberDyne  
Dali  
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iLuv  
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Infinity  
InFocus  
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IsoTek Systems  
IXOS  
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JBL  
Jmlab  
just-racks  
JVC  
KEF  
Kicker  
La-Z-boy

Leema Acoustics  
LG  
Logitech  
Magic Box  
Marantz  
Mission  
MJ Acoustics  
Monitor Audio  
Monster  
Mordaunt Short  
Musical Fidelity  
NAD  
Nakamichi  
Niles  
Nordost  
Omnimount  
Onkyo  
Optimum  
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PSB  
Pure Digital  
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# DVD ADDICT

After a day at a consumer electronics show, **The Beek** is worried that the beauty of Blu-ray is being ruined by new technology

**D**espite what regular readers of this column may think, I'm really not a miserable old git. Well, not all of the time. I'm just someone who is really passionate about movies – be it watching them on the bigscreen or replicating that experience at home in the best way possible. And it's the latter that causes the problems, because every month it feels like I come face-to-face with people who are determined to make things harder for consumers to get a truly cinematic experience in their living room.

This Summer I spent a day, as always, at the CEDIA Expo at London's ExCel. While it's not always a hotbed of breaking AV news, it's still a great chance to see kit in action that manufacturers have only teased us with in the past, and to catch up with the retailers and installers to see how things are going out there in the real world. But my visit this year has left me feeling a little uneasy, and it's nothing to do with the hoards of desperate, identikit *X-Factor* wannabes queuing outside for the auditions that were taking place at ExCel on the same day.

My unease began at a projector demonstration from Optoma. The company was showing off its new ThemeScene HD86, and as Senior product manager Justin Halls guided us through the PJ's advanced feature set, he spent considerable time talking up its PureMotion2 frame interpolation technology. To demo exactly what this meant for consumers he spun a scene from the Blu-ray of *The Chronicles of Narnia: Prince Caspian*. Or at least, that's what he said it was. It certainly seemed to be the same movie I once reviewed for this mag, but there was something a little off – it didn't look like a film, but more like an American TV production.

To prove how good PureMotion2 was, he then accessed a mode in the HD86 that splits the

image in half – one side showing the image with the tech in action, the other with it turned off. 'Look how much better it looks,' said Halls.

I agreed with his words, but for me they were aimed at the part of the image that *didn't* use the PureMotion 2 technology – **here was a Blu-ray being shown as it was supposed to look!** Running at 24 frames-per-second (remember how we demanded true 1080p24 support from BD players back in the early days?), not with added frames that manage to both smooth the image movement and produce an effect not dissimilar to those old Benny Hill sketches, where they would speed up the action of him being chased around by sexy nurses. Sure, the frame interpolation enhanced detail during camera pans, but turn your head from side-to-side and see if everything you see is pin-sharp as you do it. The world just doesn't look like that.

Returning to the CEDIA show floor it seemed that pretty much every projector, TV and monitor on display was also showcasing Blu-ray film content, but ruining the image with proprietary motion-smoothing wizardry. And it all looked bloody awful, being the complete antithesis of Blu-ray's *raison d'être* – which is to accurately replicate the director's vision in your own home. Not to add frames, smooth it out and make it look cheap and unnatural.

I'm not completely opposed – there's probably a valid place for it with TV content, especially the sporting events it was touted as being so suited to. But it has no place having anything to do with movie content delivered by Blu-ray, and you'd hope that the pro-installer and manufacturers at events like CEDIA Expo would know that ●

For more wit and wisdom from The Beek go to [www.homecinemachoice.com/dvd\\_addict](http://www.homecinemachoice.com/dvd_addict)

Although he has a bee in his bonnet about its PureMotion2 tech, **Anton van Beek** would still tolerate an Optoma HD86 in his living room







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# DEEP FOCUS

Hollywood insider **Jon Thompson** is concerned that not all IMAX cinemas are being created equal

For the ultimate cinema experience, you need a big screen. And traditionally they don't get bigger than IMAX. London's BFI IMAX (pictured) is one of the best, with its 20 x 26m screen and 11,600W sound system. Seeing *The Dark Knight* at the venue blew me away. Nothing was wanting, the picture was cinema at its finest (Wally Pfister is the boss, what great cinematography!). This *Batman* sequel has sequences shot with IMAX cameras. The IMAX original negative was cut into the IMAX DMR'd 35mm footage, creating an epic viewing experience: 70mm, 15 perf. This is how films should look.

Which is why some film fans Stateside are getting a bit upset with what appears to be a watering down version of IMAX appearing, called IMAX Digital. When actor/comedian Aziz Ansari went to see *Star Trek: The IMAX Experience* at the AMC Theatre in Burbank he was annoyed (having paid a \$5 ticket surcharge for the IMAX presentation) to discover that the IMAX Digital screen was only slightly larger than a normal movie theatre screen. Expecting a screen on the scale of IMAX theatres like those found at London's South Bank or New York's Lincoln Square, he went home and unleashed his anger on his popular blog – and his rant, which urged a boycott of IMAX, was quickly picked up by hundreds of other bloggers and websites, including Ain't it Cool News, Movieline, Hollywood Daily and TechRadar. Virtually all agreed with Ansari's criticism of the smaller IMAX Digital theatres.

## How big is big?

I think he has a point. Not only are the IMAX Digital screens much smaller in size, but also a much lower resolution. IMAX Digital currently uses two 2K-resolution Christie projectors to project two 2K images over each other, producing an image that is potentially of a slightly higher resolution than

common 2K digital cinemas. Yet in the US, AMC plans to install Sony 4K digital cinema projection systems in all its 309 theatres and 4,628 screens by 2012. So why would anyone want to pay \$5 more for a lower resolution theatrical experience?

Admittedly, **the IMAX Digital system projects an image that is bright,** with good contrast and with slightly better resolution than other digital projectors. But it also seems to have a noticeable 'screen door effect', that is, a visible dark grid pattern separating the pixels. It is particularly noticeable in lighter image areas, and less visible the farther back you are from the screen. Of course, if you move back to eliminate the pattern, your field of view narrows, and the picture looks no different than an ordinary movie theatre.

Less than 12 hours after Ansari's original Twitter message, a fan in Tennessee started a website called Liemax.com, which featured a Google Map with markers for, in his opinion, 'real' and 'fake' IMAX theatres in the US. A consumer war had begun.

IMAX responded by touting the performance of *Star Trek* on IMAX screens, claiming 'IMAX did 15 per cent of *Star Trek's* total domestic box office in the whole country on only 138 screens'. Ansari shot right back with, 'What a surprise. Another IMAX lie. Who did those numbers?' He closed the post by challenging the IMAX CEO to a TV debate.

A day later, Hollywood heavyweight *Variety* had the story, and quoted Gelfond: 'We are going to do something [about the complaints]. We hear the people.' *Variety* writer David S. Cohen closed his story with, 'Maybe they can take a cue from Coca-Cola, and dub the old screens Imax Classic.'

IMAX Digital screens are also popping up in the UK, so make sure you know what the deal is before parting with your hard-earned cash.

*Has your IMAX experience been a wow or was it found wanting? Let us know: email [hcc@futurenet.co.uk](mailto:hcc@futurenet.co.uk)*

As a post-production expert, **Jon Thompson's** movie credits include *Casino Royale*, *Children of Men* and *Mission: Impossible 3*





# Tech diary

The world of AV and film changes fast. **HCC's calendar** is here to make sure you don't miss out

**Let the Right One In:**  
Sally's love of ketchup knew no boundaries



Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				<b>31</b> <b>Land of the Lost</b> Will Ferrell and Anna Friel star in this blockbuster comedy based on the cult 1970's TV series, about some people transported in time to a world where dinosaurs still roam. Track it down at UK cinemas from today <b>JULY</b>	<b>01</b> <b>Music Television</b> MTV was launched on this day in 1981, and kicked off at 12:01 am with the words, 'Ladies and gentlemen, rock and roll,' followed by the video for The Buggles' <i>Video Killed the Radio Star</i> <b>AUG</b>	<b>02</b> <b>Geek out</b> Cult filmmaker and bearded über-geek Kevin Smith was born on this day in 1970. To celebrate, we recommend a triple bill of <i>Mallrats</i> , <i>Jay and Silent Bob Strike Back</i> and <i>Clerks 2</i>
<b>03</b> <b>Let The Right One In</b> One of the most original vampire films in decades takes a bite out of DVD and Blu-ray in the UK from today, courtesy of Momentum Pictures. Extras include a commentary and a selection of deleted scenes				<b>07</b> <b>GI Joe: The Rise of Cobra</b> After the spectacular misfire that was <i>Transformers 2</i> , can <i>GI Joe</i> become the best of this year's blockbusters based on a range of toys? Find out when it hits UK cinemas today <a href="http://www.gijomovie.com">www.gijomovie.com</a>		
<b>10</b> <b>Paul Blart: Mall Cop</b> This US box office smash, starring Kevin 'King of Queens' James as a deluded mall cop, touches down at stores across the UK on DVD and Blu-ray this Monday <a href="http://www.paulblartmallcop.com">www.paulblartmallcop.com</a>				<b>14</b> <b>Sin Nombre</b> This indie crime-thriller about a Honduran emigrant trying to get to the US was a massive hit at this year's Sundance Film Festival. It comes to UK cinemas today – and the hype should secure it a wide release		<b>16</b> <b>King of the World</b> Legendary Hollywood writer/director James Cameron turns 55 today – and later this year we'll get to see his 3D epic <i>Avatar</i>
<b>17</b> <b>Knowing</b> It's like <i>Big</i> , but in reverse, as Matthew Perry plays a put-upon father who wishes he could live his life again and do things differently, only to wake up in the body of Tween sensation Zac Efron. Out on DVD and Blu-ray today			<b>20</b> <b>NHK</b> Nippon Hōsō Kyōkai, Japan's public broadcasting company, was established on this day in 1926. Modelled on the BBC radio company of the time, NHK is also funded by a licence fee	<b>21</b> <b>Inglourious Basterds</b> Quentin Tarantino returns to the bigscreen with this gorestrewn WWII romp. Don't miss these Basterds when they arrive at a cinema near you from today <a href="http://www.ingloriousbasterds-movie.com">www.ingloriousbasterds-movie.com</a>		
<b>24</b> <b>I Love You Man</b> A guy with no male friends sets up a series of 'man-dates' to find a best man for his wedding – that's the premise behind the latest 'bromance' comedy to roll out of Hollywood. Buy it for your buddy on Blu-ray or DVD today			<b>27</b> <b>HCC #173</b> Start saving your pennies for HCC #173. Your favourite home cinema magazine hits the stands this Thursday, packed to the gills with hardware tests, installs, features, outspoken opinions and full-on software reviews <a href="http://www.homecinemachoice.com">www.homecinemachoice.com</a>			





BRILLIANCE MEETS NUANCE



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# Grindhouse geek

## Expletive action:

Now just (bleep),  
(bleep) and  
(bleep), then turn  
around



Including *Inglourious Basterds*, his long delayed WW2 homage, Quentin Tarantino has only directed six feature-length films in 17 years. It's hardly prolific. In comparison, Woody Allen has helmed 17, and even Uwe Boll has made 15. Yet, it is to the man and his movies' credit that even this meagre amount has seen him lauded as one of the greatest directors of the modern age. Indeed, his lack of productivity could actually be attributable for the quality of his output. Genius takes time – ask Terrence Malick.

There's another reason to be grateful for the gaps between his directorial projects – if he were to bang out movies like a modern-day Ed Wood Jr, we'd never get to savour the rest of his talents. For instance, Tarantino is more than just an innovative director, he's a creditable story teller with an astonishing knack for dialogue. Tony Scott's *True Romance* and Oliver Stone's *Natural Born Killers* were both penned by QT, and it may come as a surprise that the screenplay for

middle-of-the-road submarine thriller *Crimson Tide* was given a polish by Tarantino during his post-*Pulp Fiction* days (hence the inclusion of a rather superfluous conversation about comic book hero The Silver Surfer). More recently he even wrote and directed two episodes of *C.S.I.*

Tarantino's acting career is also widely varied, albeit much less acclaimed. His performances in *From Dusk Till Dawn* and *Desperado* (both directed by pal Robert Rodriguez) are certainly on a par with the consummate appearances in his own movies. And, *Little Nicky* and *The Muppets' Wizard of Oz* aside, his presence in a film invariably whips the internet movie community into a frenzy. Indeed, even his name across the top of a poster (such as with *Ong Bak*) can cause fanboys to foam and froth.

## Filmaholic

And that's the rub. Quentin Tarantino appeals to the fanboy in all of us, because he is a fanboy, too. The reason he has such an encyclopedic grasp of cinema is because he loves movies. When asked if he went to film school to learn his craft, he responded, 'No, I went to films.' And there is no better way to learn than that... ●

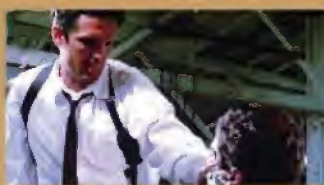


## Quintessential Tarantino... QT courts controversy with *Reservoir Dogs*...



### 1 'It's amusing to me...'

Left alone with Marvin the cop, Mr Blonde decides to have a little fun with a straight-razor.



### 2 '... to torture a cop'

After a spot of dancing to Stealers Wheel's *Stuck in the Middle with You*, he grabs Marvin's head...



### 3 A close shave

... and goes to work on him with the razor. As the camera pans away, we are left listening to Marvin's screams.



### 4 Ear we go

As the screams die down, Mr Blonde walks back into shot holding a bloody ear

## Must own...



### Pulp Fiction:

Buena Vista → R2 DVD  
Collector's Edition → £18 Approx  
The definitive Tarantino film, this time twisting crime drama reinvented Bruce Willis, resuscitated John Travolta's ailing career, and immortalised Samuel L. Jackson as a gospel-spouting hitman.  
**08.07:** 'And you know what they call a Quarter-Pounder with Cheese in Paris?' The first of many, endlessly quotable lines.

**48.02:** Travolta does what he does best and struts his stuff on the dance floor with Uma Thurman in the Jack Rabbit Slim's Twist Contest.



### From Dusk Till Dawn

Buena Vista → R2 DVD  
Collector's Edition → £18 Approx  
This features QT's biggest acting role to date, and the material he wrote for director Rodriguez is solid gold. A treat for schlock horror fans everywhere.  
**00.01:** Right from the start this R2 two-disc edition improves on its US counterpart by actually delivering an anamorphic transfer.

**54.40:** Salma Hayek in a skimpy bikini doing a sexy snake dance – surely cinema doesn't get much better than this?



### Kill Bill: Vol. 1

Buena Vista → Region B Blu-ray  
£24 Approx  
The first (and best) part of Tarantino's homage to the kung-fu flicks he grew up with.  
**00.14:** The use of the old 'ShawScope' logo at the start of the film allows QT to salute his major influences.  
**75.22:** Soaked in the blood of her enemies, The Bride takes on the Crazy 88, accompanied by dazzling lossless PCM 5.1 audio.  
**90.15:** The Bride and end-of-level boss O-ren Ishii face off in a breathtaking, snowbound swordfight.



### Reservoir Dogs

Lionsgate → Region-free Blu-ray  
£25 Approx  
The film that made Tarantino a firm favourite with the critics, this low-budget crime movie owes plenty to Ringo Lam's *City on Fire*.  
**00.13:** 'The entire song... it's a metaphor for big dicks'. Tarantino establishes his fondness for crude, pop-culture infused dialogue.  
**52.23:** The notorious ear-sliding scene (see Quintessential Tarantino, above)  
**91.04:** With 1080p visuals, it's easy to see that Harvey Keitel's Larry really does shoot twice in the final standoff.

## Worth seeing...



### Jackie Brown

Buena Vista → R2 DVD  
Collector's Edition → £18 Approx  
Turning his hand to adapting an existing work, Tarantino delivers a more mature and character-driven piece than usual with his take on Elmore Leonard's popular crime novel.  
**06.11:** 'AK-47, the very best there is...' Even though he's adapting another writer's work, QT still brings in his own distinctive dialogue.  
**43.51:** The anamorphic 1.85:1 DVD transfer does its best, but the interior of the Cockatoo Inn, bathed in red lights, struggles with artefacting.



### Natural Born Killers

Warner Home Video → All-Region  
Blu-ray → £20 Approx  
Tarantino hated director Oliver Stone's revamp of his early script, but he's wrong – there's plenty to enjoy about this controversial tale of murderous lovers on the lam.  
**09.44:** The videotape visuals for the sitcom-styled *I Love Mallory* flashback hardly brings out the best in the 1080p VC-1 encode.  
**84.25:** 'I'm just a natural born killer'. With that immortal line Mickey instigates the climactic prison riot.



### True Romance

Warner Home Video → All-Region  
Blu-ray → £18 Approx  
A pre-*Reservoir Dogs* Tarantino script provided the basis for this brilliant Tony Scott thriller about love, drugs and getting away with murder. Christian Slater hasn't been this great since.  
**25.52:** The Blu-Ray's Dolby TrueHD 5.1 mix cranks up the atmosphere with pounding bass as Christian Slater's comic store employee pays a visit to Drexel the pimp.  
**108.07:** If it's an early Tarantino script, it has to end with a three-way shoot-out.



### Death Proof

Momentum Pictures → All-Region  
Blu-ray → £25 Approx  
While not a complete failure, Tarantino's grindhouse homage struggles to balance the good stuff (car crashes and car chases) with the bad (endless scenes of people talking about nothing).  
**51.04:** Stuntman Mike puts his 'death proof' car to the test, resulting in a spectacular crash that has glass shattering around you and crunching metal reverberating through the mix.  
**93.12:** This epic car chase allows QT to wallow in fast-paced action.



# RECALL

## 20 tips, tweaks

During the height of summer there's no better time to lock **Martin Pipe** says it's easy to make big improvements

### 1 Clean your discs the smart way



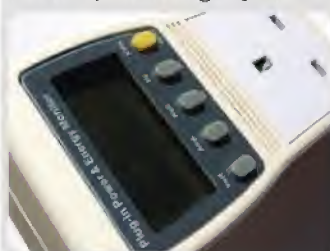
That sprawling disc collection is a large investment, so treat it with respect. Handle a disc by its edge, to avoid oily fingerprints that could interrupt playback, and if you have to clean it, gently wipe it from the centre to its outside edge with a lint-free cloth. This motion is at right angles to the disc's microscopic spiral track that carries the all-important data, so there's less chance of scratches causing errors. Never wipe with a circular motion!

Oh, and always replace them in their boxes after playback. Obvious, really.

### 2 Go green – and save money too!

Maplin is just one of many outlets that sell a range of inexpensive power monitors that will tell you the energy consumption of your equipment. Use one to identify the worst contributors to your electricity bill, and in some cases, work out where you can improve matters. It's also worth checking your kit's menus for power-saving modes. Some DVD recorders, for example, offer a low-power standby mode that sacrifices features like Scart loop-through for minimal energy drain.

There is also a gadget called a Wattson, which is available from some websites, such as Firebox, for around £100. It can monitor power usage by wi-fi.



### 3 Invest in a calibration disc



If you haven't calibrated your system, then you're simply not getting the best from it. Invest £20 in a copy of *Digital Video Essentials* (available on Blu-ray and DVD) to get a reasonable standard of calibration without the need to hire an ISF-trained professional. *DVE* takes you through the process on a step-by-step basis, using a series of simple test patterns. Special glasses are included for colour adjustments, and the disc also contains some specially-shot footage and some useful audio content.

### 4 Rethink your cables



Are you using the best connections? From good to bad, the options are HDMI/DVI, component, RGB Scart, S-video, composite phono/Scart and UHF/RF. In other words, use HDMI whenever possible and avoid any unnecessary conversion between analogue and digital. Older HD ready sets might only have one HDMI input, so buying a (1080p24 compatible) switching box makes sense. If both Blu-ray and Sky+HD or a Virgin Media V+ HD box compete for the available socket, use HDMI for the former and hi-def component for the latter as there will be little to no drop in picture quality.



# BRATE

## & tune-ups

yourself away with your AV kit and tweak your system. with only a modicum of effort

### 5 Invest in surge protection



It may not seem glamorous, but investing in surge protection makes sense. Mains surges can affect performance and, in the worst cases, can cause erratic equipment behaviour, or even damage – a lightning strike on a nearby power distribution line, for example. Consider a mains distribution board with mains filters and surge suppressors – they're frequently sold for use with computers. The surge suppressors absorb or short to earth the mains 'spikes', preventing them from reaching your equipment. You may want to go the whole hog and invest in a mains conditioner with in-built protection, such as one of Belkin's Power Consoles.

### 6 Make sense of your sonic options

With recent equipment, chances are that you're using HDMI to send audio and video to your display via your AV receiver. But what about those with older systems? If you're using an optical or coaxial digital cable to feed your amp from a DVD player, ensure the latter is set for 'bitstream out'. That way, you'll get discrete surround (DTS/Dolby Digital). It's surprising how often users get this wrong. An AV amplifier can do no better than Pro-Logic if the DVD player is only supplying it with two-channel PCM. Sky+HD subscribers should select 'Dolby Digital' from the sound settings menu. Confusingly, two-channel audio is available via the HDMI out of a Sky+HD box.



### 7 Get into sticky crafts



Craft products may seem an unlikely AV ally, but they can be invaluable. Self-adhesive felt pads, which can be stuck onto the feet of equipment to reduce furniture scratches, as well as the transmission of unwanted vibrations, are particularly inexpensive. Our pictured pads (above) came from a 100Yen shop in Tokyo (for about 70p) but you'll find them widely available in craft shops and DIY superstores. Self-adhesive Velcro pads from similar outlets will allow you to mount small devices like aerial amplifiers, HDMI switchers, and networking equipment on to walls or skirting boards.



## 8 Keep your kit cool and clean!



Poor ventilation can slowly kill all manner of consumer electronics – so ensure there's always an airflow around it when you squirrel it away in furniture or racking. Some manufacturers recommend a distance of at least 10cm on all sides to ensure adequate airflow. Never place stuff on top of an AV receiver – those ventilation grilles are there for a reason. A yearly dust-busting session is always a good idea for all kit. Dig your components out and clean them down. A blast of canned air will dislodge heavy deposits from the inside of most hardware...

## 9 As blank media costs drop, migrate to better branded products

It makes sense to use decent-quality 'branded' blank media – TDK, Verbatim, etc – in your DVD recorder. It's not much more expensive than the unbranded variety and tends to have a longer life. How much are your personal memories or 'never-to-be-repeated' TV shows worth anyway? Your equipment will also last longer; the lower reflectivity and dubious servo tracks of cheap discs mean that your recorder's laser has to work harder...



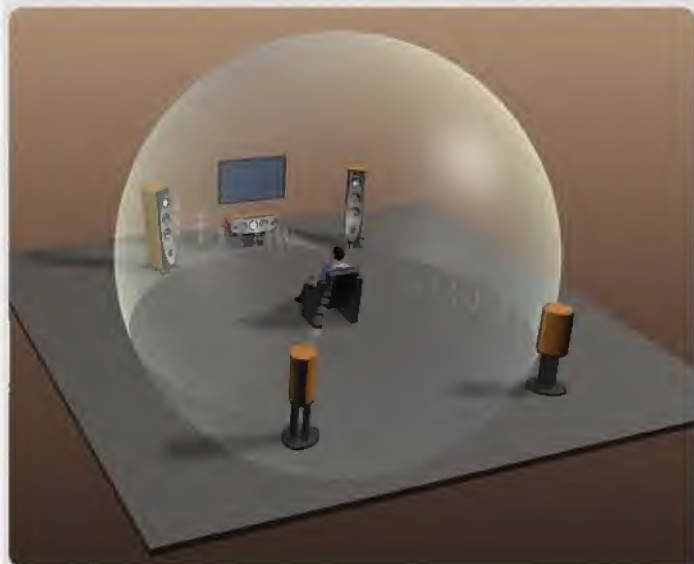
## 10 Never waste a connection



The front-panel AV inputs on TVs are surprisingly useful, for transitory kit like games-consoles and camcorders. If you don't have any front AV inputs, or the available selection is too basic for your needs, then run cables from any spare inputs on the rear of the TV to a convenient location. Their 'free ends' can be connected to 'occasional sources'. When they're not required, protect them with a lidless pill-box. A selection of 'couplers' will cater for non-standard equipment (eg camcorders) with proprietary AV cables. DIY enthusiasts might consider making their own 'breakout boxes'.

## 15 Experiment with the ITU surround sound speaker globe

The widely accepted professional standard for multichannel speaker layout is ITU-R BS.775-1 – if your room allows it, why not give it a try? Here, the listening position is in the centre of an imaginary circle of between 4m and 8m in diameter (pictured below). The front speakers should be spaced by 60 degrees – 30 degrees on either side of the centre line. The rear speakers, meanwhile, should be placed within 100-120 degrees of the centre line. The front and centre speakers should be at ear height (approximately 1.2m), although an inclination of up to 15 degrees is allowed for the rears. Ensure that nothing is situated between speakers – reflections from such objects can blur the soundstage.



## 16 Toe-in your L/R speakers



Many left/right speakers benefit from being 'toed-in'. Here, the enclosures are angled so that their drive units directly face the listener. But getting the angle can be a bit hit and miss. A laser pointer is one way to achieve perfect directionality. Put it on top of your speaker, which can then be rotated until the laser's light shines on the optimum listening position. To make the job easier, you could prop up a dark cushion on your sofa to represent the listener! Alternatively, place a mirror over the speaker driver, and toe-it until a person in the listening position sees his/her face reflected.

## 17 Invest in an infra-red repeater

Some folks like to keep their equipment in cabinets – appropriately ventilated, of course. Close the doors and you kill the distracting illumination of front-panel displays. But this usually means you can no longer operate the equipment remotely, because the infrared path is now blocked. Some equipment makes provision for external infrared sensors; these can be located outside the cabinet. Another option is to use an infra-red 'repeater' – these are available from Keene Electronics, amongst others – or RF sender/receiver combination and compatible universal remote control. The latter can even be used through walls.





## 11 Protect Freeview reception



There's nothing more annoying than having your Freeview PVR recordings spoilt by digital hash caused by poor reception. So while the weather is good, check your aerial is in order and get help if necessary. Also, make sure that any aerial flyleads are in good order – replacements are inexpensive.

Back in the living room, rotating the plug back and forth in the socket can dislodge any signal-sapping oxide on the pins. We also advise a periodic re-scan of your Freeview box (if it hasn't prompted you to retune automatically), to ensure that your receiver's database of channels is up to date.

## 12 Ditch those grilles

For the best possible fidelity, remove the front-panel grilles from your speakers – the improvement in transparency, notably at the treble end, can be dramatic. They're usually held in by plastic plugs that mate with holes on the baffles, and shouldn't need much effort to remove. But don't do this if children can reach them. They generally find the temptation to press in the soft domes of tweeters too hard to resist!



## 13 Subwoofer positioning



The placement of a subwoofer is influential in determining how it 'excites' the low-frequency acoustics of your room. Positioning is thus critical; from the listening position determine which location gives the best results – a 'natural' and consistent sound, with no 'boom' or tonal 'holes'. Use a well-recorded music track with a good bassline – ideally one you know well – or LFE heavy sequence for a favoured movie during the process. Ensure that you also follow the manufacturer's guidelines for level, phase and crossover frequency.

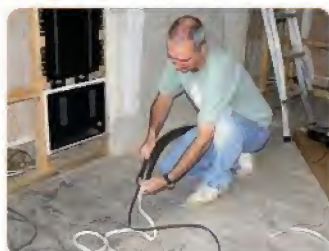
## 14 Tame those rattles

The aforementioned *Digital Video Essentials* features a very useful 'buzz and rattle' test, which sweeps (albeit quickly!) from 15Hz-300Hz. It's great for revealing rattles in your living room. These should then be tracked down and eliminated with extreme prejudice – judicious use of Blu-Tack can help if the offending object can't be removed altogether. Just find out why it's rattling and then stick it or plug it with the helpful putty.

Blu-Tack can also be used to isolate bookshelf-type speakers, reducing their tendency to vibrate other items, even the shelf they stand on, as well as improving fidelity generally.



## 18 Plan in-wall cable runs



If you're ploughing your spare time into a home cinema room-conversion, here's a hint. Wiring is unsightly, and it's common to bury it in plaster so that it cannot be seen. Bury instead a section of foam pipe (typically pipe lagging), through which your cables can then be run. That way, it will be easier to add or upgrade cables in future. Avoid placing the cables in any plastic conduit that may rattle under sonic duress. If your home cinema room is in a top-floor room, consider running projector cables in the loft space. Use decent, flexible interconnects.

## 19 Use less projection power for better blacks

Using the low-power or 'eco' mode of a projector is thoroughly recommended. Our pictured BlackWing One LCOS projector from Cineversum is just one of many models to offer an 'economic' viewing mode. Not only will such modes extend the lamp of the (expensive) bulb, but power consumption is reduced. Best of all, the black level improves too! Indeed, you might find that the frequently-intrusive 'auto-iris' trickery can be disengaged. Naturally, the reduced brightness means that your viewing room should be darkened – consider installing 'blackout blinds' or curtains with a blackout lining to ensure you can use your projector throughout the summer months. At the same time, install some interior ambient lighting to reduce eyestrain.



## 20 Power down your sub



The automatic standby systems on active subwoofers, which turn them off when no signal is present, can be a little flaky. They can often stay on long after you've gone to bed. If your AV receiver has a switched mains outlet on its rear panel, consider powering the subwoofer from that. Turning off the receiver will then essentially disconnect the sub from the mains. European mains outlets tend to be used, so you'll need an adaptor – and possibly an extension cable.

If your amplifier lacks a switched mains outlet, consider using an extension cable or distribution block (power strip) with a convenient mains switch.



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# INSTALLS

→ **Smarthome highlights** **IMERGE** Taking control with innovative new iPhone application **PRO DISPLAY** 'Intelligent glass' and hidden LCDs **AQUAVISION** Made-to-measure waterproof TVs **ARTCOUSTIC** Stereo speaker range for smaller rooms **MAVEN** Stylish pro-install with 'wow-factor' **CERTIFIED AV-HOLIC!** An *HCC* reader guides you through his garage home theatre



## Cinema paradiso

High-end kit and THX/ISF-calibration ensures this is a heavenly pro-install...



# Movies at your fingertips

Imerge's new iPhone app takes movie viewing to another level

**Jukebox jury:** Hard drive systems able to play music as well as movies are gaining in popularity



**Pod people:** Imerge's controller app works on both an iPhone and an iPod Touch



One of the most exciting things about the custom install industry is its ability to evolve. Perhaps unsurprisingly, this evolution occurs at a much quicker pace compared with the rest of the AV industry: you'd expect the apex of home cinema (and hi-fi) to adopt new practices ahead of the rest of the pack.

Take Cambridge-based Imerge, for instance. This innovative British outfit continues to push the envelope, adding new and exciting technologies to its existing modus operandi. Starting out as a music storage hard-drive provider in the late 90s, it developed the world's first hard drive-based audio server, the SoundServer – a kind of giant iPod for posh homes. In 2007, the company added movie storage, with the multi-terabyte, 1080p-capable multiroom MS5000 – important in home cinema installs – and in 2008 it launched the MP1000 MediaPlayer which, when combined with the MS5000, is a trendsetting example of how rewarding a home media server can be.

Now, completing the Apple serendipity, Imerge has added iPhone and iPod Touch control functionality to the feathers in its virtual, multiroom hat.

Controlling these vast storage hubs has always been something of a challenge, which is why there's a range of efficient, sexy and expensive controller options available (think Crestron and AMX, to name but two). Imerge users can now

choose between Apple or Philips' interfaces. As we reveal opposite, the Soundserver S3000, MediaServer MS5000 and MediaServer MS1 systems are now controllable via Philips' Pronto touchscreen remote panels.

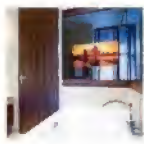
But it's the iPhone/iPod Touch control functionality that has us excited. Available only for the MediaServer MS1, it works in tandem with the system's GUI, and is available as an 'app' download for £18 (it requires iPhone OS 2.2 or later). Designed to enhance the experience of owning an MS1, and to provide an inexpensive alternative to a touch controller, the application works in two ways: 'Gesture' mode and 'Now Playing' mode.

The former uses iPhone's trademark gesture control to touch, drag, swipe and press – in order to control the onscreen Imerge hi-def GUI. The latter provides 'rotate to view' controls such as play, stop, pause, etc – with album and movie artwork. Touching the album artwork in 'now playing' mode reveals yet more music control options, and pressing the movie artwork reveals movie credits and all manner of interesting tidbits and info.

If your home media needs are big (and your home roomy), the app will support up to 16 zones of music and movies, and if you happen to be a southpaw, the 'left-handed' mode will make your life a lot easier too.



## Bespoke waterproof TVs



For that touch of AV luxury, why not get a waterproof TV, from Aquavision's Bespoke Range?

Aquavision is offering interior designers and custom installers a 'made-to-measure' TV range for wetrooms! The Bespoke Range features an Aquavision waterproof television behind Mirrorvision or fully mirrored glass.

The glass panels are landscape or portrait, up to a maximum of 200 x 150cm, with six Aquavision screens ranging from 10-40in. The tailor-made TVs can incorporate multiple screens, back lighting, mounting holes, basin taps and even matching glass panels to create a whole mirror wall effect!

## Lutron is installers' fave



Eight out of ten installers prefer Lutron, according to results from the CEDIA '09 Awards.

The CEDIA Awards, now in their third year, showcase some of the best installations Europe-wide. Eight out of the ten winning install category winners used Lutron.

David Graham, Managing Director of custom installer Grahams Hi-Fi, which won Best Integrated Home Under £100,000 commented: 'The programming tools that Lutron HomeWorks offers allow us to do things like program the shades to lower when the sun glares onto artwork in the early afternoon – allowing us to protect valuable artwork.'

## Imerge and Philips unite



The best things in life are free – like Imerge's new software module for Philips' Pronto

controllers. Of course, you'll need to be an Imerge owner and buy a compatible Philips Pronto (around £300) – but don't let that get in the way of the good news!

Key features include browsing by artwork, track, artist, genre and year; Imerge TV GUI navigation; along with full metadata and artwork available over wi-fi.

Based on the ProntoScript platform from Philips, the new module controls Imerge's SoundServer S3000, MediaServer MS5000 and the top-of-the-range MediaServer MS1.

## New Artcoustic stereo system



Artcoustic has attracted a lot of attention with its innovative range of wall-hanging

speakers. Speakers can be overprinted with any design (snaps of your family or other JPEGs) and make an interesting alternative to in-wall and conventional speakers. There's also an addition to the Artcoustic stereo range that's ideal for smaller rooms. It's the £1,150 Superstar Passive, which ships with a separate PA260 power amp and joins the original £1,400 Superstar Active system with its integrated 150W amplification. Prices include a Match System screen. The new passive system provides system builders with an option for more conventional connectivity.

# A touch of frosted glass

A screen is not just a screen when you are in the company of Pro Display. Mirrors, switchable intelligent glass and adhesive sheets are the least of it...

Screen manufacturer Pro Display has come up with some interesting new products for those looking for a very different kind of projection screen. Designed for 'individuals who have a need to be different and a desire for the very latest in innovative technology', the collection includes optical front and rear projection screens, window projection films, switchable 'intelligent' glass and film, mirror screens, infrared touch screens, canvas art wall speakers and Soundpod audio transducers.

For those that need to turn any room into a cinema, the brand has produced a range of Self-Adhesive Projection Films for front and rear projection setups that can transform regular glass into a video projection screen – so you can watch movies virtually anywhere! Screen sizes range from 30in to 120in with prices running from £325 to £2,075, depending on the type of film required and the screen size.

Also new are Pro Display's Optical Diffusion Screens and LCD Glass products. The former are hand cast in a special glass mould – a process that is far more labour intensive than other coated or extruded screens. The high gain, high contrast and transparent screens with sizes ranging from 32in to 138in. Prices vary from £495 to £3,850, depending on size and specification.

Meanwhile, the brand's LCD Glass Screens are manufactured using a special optical glass which reacts to an electrical current being passed through it, switching it from transparent to frosted. In its frosted state, it becomes a high definition rear projection screen! Sizes available include



40in, 50in, 62in, 77in and 92in; with prices from £2,125 to £5,495.

Finally, the brand has Mirrorvision, which combines with a frosted LCD panel glass panel to create a 'now you see it now you don't display that Snow White's step-mother would have been proud of. Screen sizes range from 10in to 57in and cost between £1,350 to £6,500.

And it doesn't end there. Coming in 2010 is the Platinum Vision, aimed squarely at the high-end of the residential market. Apparently this collection will include an array of limited edition solutions designed with the intention of bringing a sense of style and individuality to the AV sector. Hmm, we can't wait... ●

**Man in the mirror:** LCD TVs hidden behind Mirrorvision glass are impressive





### → Kit Checklist

**Runco:** RS1100 1080p projector;  
Whitney lens (2.35:1-16.9)

**Screen Research:** X-Mask THX ISF  
perforated 108in fixed screen

**Denon:** AVP-A1HD processor;  
POA-A1HD amplifier

**Triad:** 7 x in-wall Silver loudspeakers; 2 x  
in-wall subwoofers (driven by 250W  
rack-mounted amp)

**Sky:** HD receiver

**Sony:** PlayStation 3

**Silent Gliss:** Blackout blinds

**Kaleidescape:** 1 x Movie Server; 1 x Music  
Player; 1 x Hard Disk Storage

**Middle Atlantic:** 2 x AV racks

**Crestron:** TPMC-8X wi-fi 8in touchpanel

**Crowson:** 5 x tactile transducers (one for  
each seat)



# On top of the world

The home cinema may have been an afterthought but it was the making of this installation



This award-winning Kent-based dedicated home cinema room evolved out of a whole house integration project designed and completed by the experienced team at Imagine This (UK) Ltd. Unusually, the cinema room wasn't part of the original brief from the client, but was instead requested after the first phase of integration was completed.

This provided the team with a unique challenge: to seamlessly integrate the cinema and associated technology into a whole house AV distribution and control system that had been finished about a month before work on this part of the project began. And as the install team started bringing ideas to the table, it quickly became clear that this was the one part of the entire project that the client was most excited about.

## Cinema calibration

Keen to get the best performance possible, the client specified not only a Full HD cinema, but also insisted on one that would match THX and ISF specifications. To match the brief, the Imagine This team specified a Runco RS1100 DLP 1080p projector, which is capable of delivering exceptional imagery from both upscaled standard-definition content as well as native hi-def material. This was matched with a Screen Research acoustically-transparent 2.35:1 Multi Mask projection screen.

Imagine This Design Director Guy Singleton elaborates, 'As we finished the theatre, we calibrated the image for "ISF Day and Night" modes to keep the image crisp and full of detail. The sound was also calibrated to full THX standards >

## Room essentials

### A Widescreen

The screen, from Screen Research, is 2.35:1, but has motorised masking to fit 4:3 or 16:9 images. It's certified by THX and ISF, too

### B Pick a picture

The Kaleidescape Movie Server enables the owner to browse complete digital copies of his DVD collection, and then watch them upscaled to 1080p. For a true HD experience, the PlayStation 3 provides Blu-ray thrills

### C Out of sight

The entire 7.2 surround system is fitted in-wall. The installers have specced units from high-end US brand Triad



## 34 INSTALL

using a sound pressure level meter to achieve what can only be described as 'stunning audio performance'.

For ease of use, and to easily partner with the AV distribution tech installed as part of the whole-house conversion, it was decided to use Kaleidescape Movie and Music servers as the primary content source for the cinema. For true 1080p Blu-ray support, the installers also decided to include a PlayStation3.

The Crestron controls make things even more easy and immersive. As you first climb the stairs to the cinema you are greeted by an in-wall docking station housing a TPMC-8X touchpanel. A swipe of your finger releases it from the dock and automatically raises the lights to the preset 'Take Your Seats' level.

And when the end credits roll, the Kaleidescape module tells the Crestron lighting to start increasing in brightness, so the audience can leave without falling over. The end result is a magnificent dedicated cinema room. One that the team at Imagine This can take immense pride in, and that the owner can enjoy, with minimum fuss, over and over again! ●



### Master remote:

The Crestron touchpanel handles all the AV, plus lighting, heating and air-con, too



### D Let there be light

All the cinema lighting, including the funky low-level down-lighters, is fully integrated into the Crestron control system

### E High-end PJ

Runco's RS1100 1080p DLP projector features the brand's own Vivix processing technology – and a rotatable badge, so it doesn't look odd fitted to the ceiling

### F Rumble time

All five of the cinema seats are fitted with Crowson tactile transducers, which shake the seating to correspond to the LFE channel

### G Big boy

This hulking pre-amp from Denon features Dolby TrueHD and DTS-HD MA decoders, THX Ultra2 certification, and Realta HQV video processing

### H Even bigger boy

Driving the speakers is this monolithic amplifier, a cosmetic and technical match for the pre-amp. Our Tech Labs measured its five-channel performance as 350W (4Ω) so only consider buying one if you want insane levels of power and don't care about your energy bills





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# Big screen, small space

Even a modestly-sized room can deliver a true big-screen experience

## → Kit Checklist

**Pioneer:** BDP-LX71 Blu-ray player

**Yamaha:** DSP-AX863 7.1-channel amplifier

**Cineversum:** Blackwing Two three-chip D-ILA 1080p projector

**Screen Research:** 9ft Fixed Frame with velour finish; ClearPix 2 acoustically-transparent projector screen

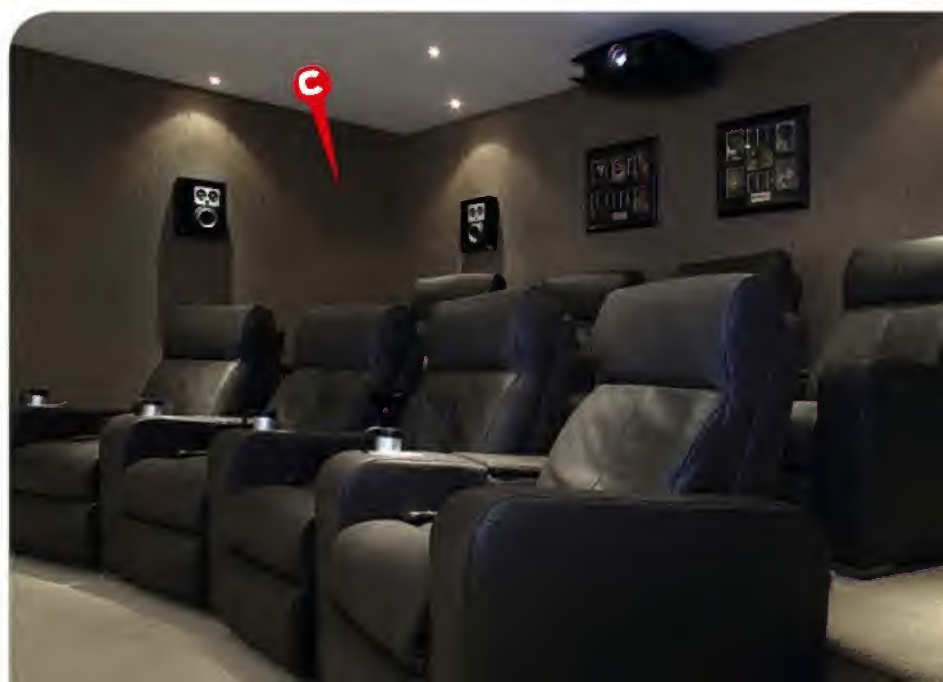
**Kaleidescape:** 1 x 1u Server; 1 x 1080p Server; 4 x KDISK 1TB Disk Cartridge

**Artcoustic:** 3 x Spitfire Professional Monitor (L/C/R); 2 x Spitfire Professional Subwoofer; 2 x PA-1800 Power Amplifier; 4 x Diablo Monitor (surrounds); 4 x Diablo Monitor Art Screens

**Middle Atlantic:** 27u Space Equipment Rack with associated shelving and ventilation

**Crestron:** MP2E Control System Processor; TPSI-6X Isys 5.7in two-way touchpanel with video interface; CENI-HPNRFGW high-power RF touchpanel gateway; CLSI-C6 iLUX integrated lighting system; C2NI-CB Cameo 2 wall-mounted keypad

**Maven:** Gigabit Network Package







Creating a dedicated home cinema with the ultimate 'wow-factor' is a challenge for any leading home cinema design company. But with a whole family of movie fans on the judging panel and an existing lifestyle cinema system in the property that could compete with any local Odeon, this project undertaken by the install team from Maven AV Ltd needed to be a little bit special.

According to Maven's Co-Director Rob Simmonds, 'The client's wish was for the biggest screen possible in a 4.5m by 5.5m room, with enough space to house between eight and ten cinema-style seats'.

Working alongside the client's property developer, the install team definitely delivered the goods. High definition Blu-ray content is projected at Full 1080p via a ceiling-mounted Cinversum Blackwing Two at the rear of the room, while the family's entire music and (upscaled) DVD content is accessible from Kaleidescape media servers. In addition to this, the Crestron controls even allow the user to view content from any of the 16 security cameras that are positioned around the property.

The family were obviously delighted with the results of the project, praising Maven for, 'a top-class installation... their attention to detail is outstanding and the cinema room is everything we imagined it to be and more.' ●

## Room essentials

### A Hidden speakers

The Artcoustic L/C/R speakers and two subwoofers are installed behind the 9ft acoustically-transparent ClearPix2 projector screen

### B Lap of luxury

The eight motorised reclining seats offer the ultimate in film-watching comfort, including 'Heat' and 'Massage' modes, as well as built-in beverage holders!

### C Shiny shiny

The dark-toned textured wallpaper used on the back walls contains a subtle glitter that Maven claims 'enhances the lighting wall-wash'

### D Control made easy

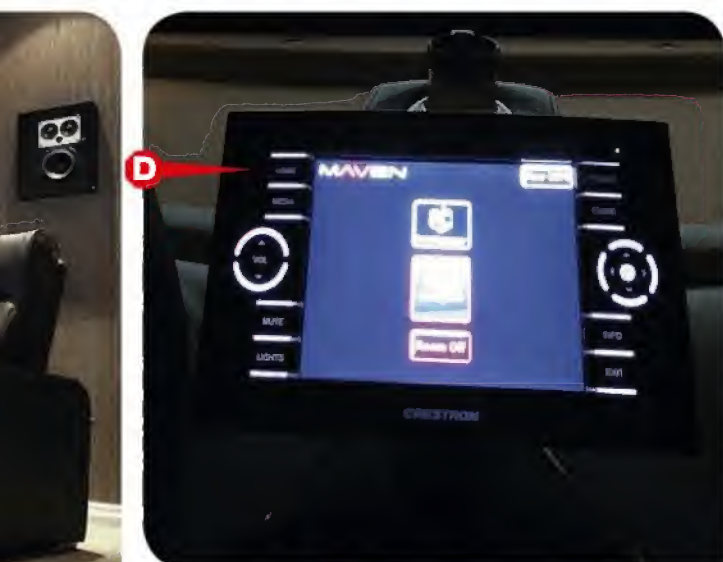
A wireless Crestron TPS-6X Isis touchpanel is as functional and easy to use as it is stylish

### E Bass blasters

Powering the subwoofers is this pair of Artcoustic PA-1800 1800W amps

### F Lossless audio


Tuned in the UK for optimal performance, the Yamaha DSP-AX863 amp also supports all of the HD audio formats









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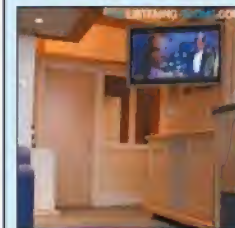
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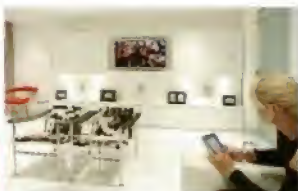


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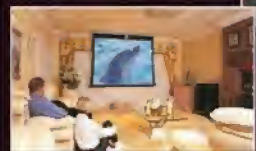
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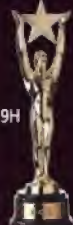


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Pioneer's new in-ceiling speakers could change the way  
**Steve May**

# Changing hidden

**Ceiling fan:** Pioneer's audio guru, British-born Andrew Jones, designed the brand's new in-ceiling range



Pioneer believes it has a secret weapon in the war to become the speaker brand of choice for the growing custom installation scene: the reputation of its TAD subsidiary and a new range of startlingly effective in-ceiling speakers.

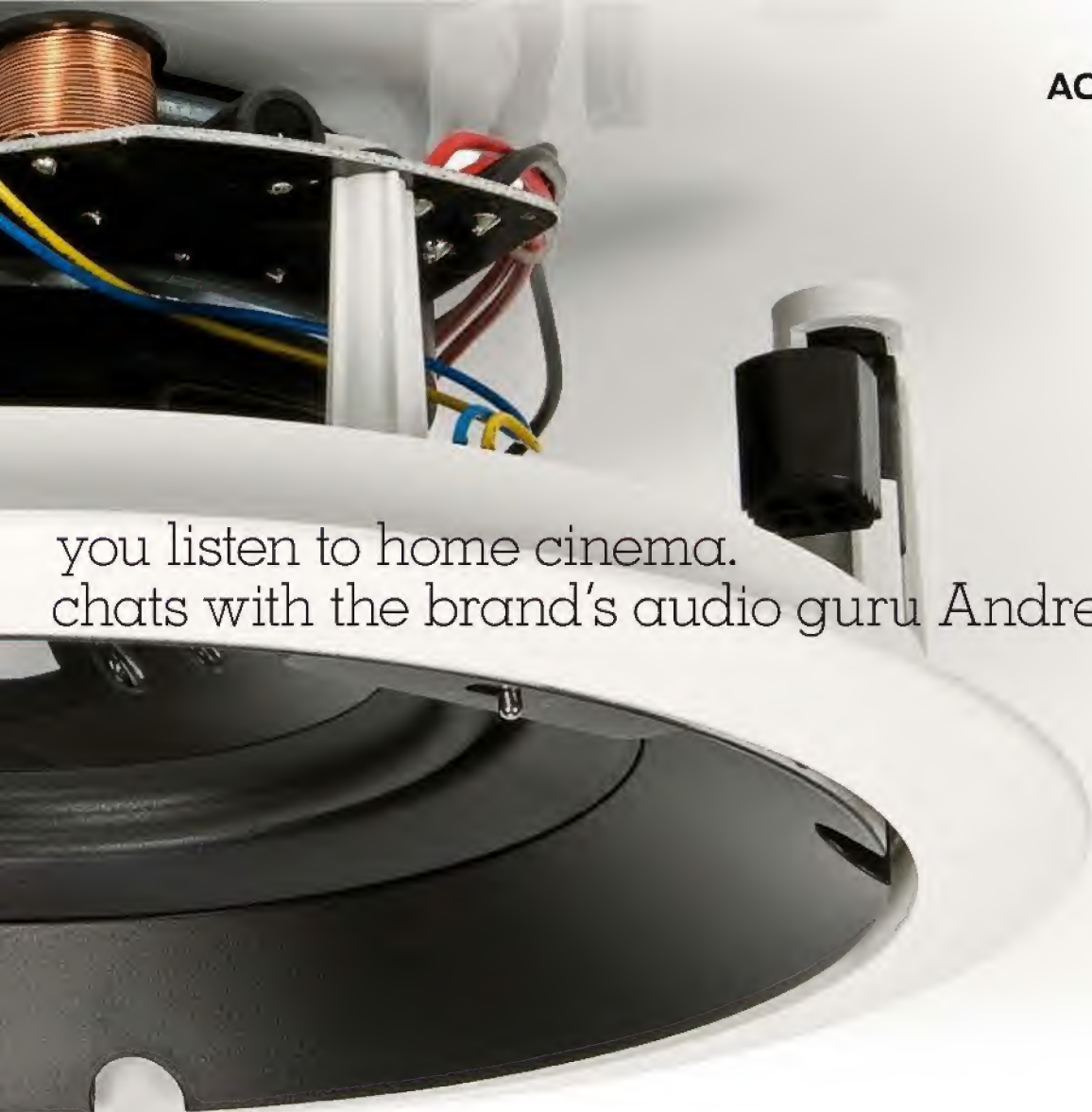
The company says it wants to become the sound of high-end home theatre, and is tip-toeing into the UK market. But the challenges it faces are considerable, and there's no shortage of big names already offering in-wall products (Bowers & Wilkins, Tannoy, Speakercraft, Definitive Technology, and Polk, to name just a few).

Yet Pioneer believes it has the edge in

experience (it began making loudspeakers in 1937), not to mention the reputation of Andrew Jones, designer of arguably the best-sounding loudspeaker in the world (the renowned TAD Reference One).

In the US, the brand's new custom installation enclosures come in two flavours: the Elite EX Series in-walls, and in-ceiling alternatives. Both use concentric Coherent Source Transducers, rather than conventional drivers, **a technology filtered down from the legendary TAD cabinets.** It's the in-ceiling models that the UK custom install industry has access to, in





you listen to home cinema.  
chats with the brand's audio guru Andrew Jones

# the sound of speakers

the shape of the I-C631 and 651 models.

'The advantage our CST speakers have over conventional models is that as you move around the listening room, the tonal balance of the sound doesn't change,' explains Jones, Pioneer's director of speaker engineering.

This better off-axis response means the drivers are natural for AV use. We're chatting in a claustrophobic test chamber, deep within the bowels of Pioneer's HQ in Kawasaki. It's packed with enough amplification to pressure load a ballroom. Jones cradles one of his new in-ceiling models like a baby.

So why the two approaches?

'We wanted to show the best that could be achieved with the two different types of topology,' says Jones. 'The CST models give a very uniform delivery which is great for general purpose audio.'

Even a cursory glance at the new CST speakers reveals similarities with concentric rivals from Tannoy and KEF. So are they basically the same?

Jones shrugs. 'The devil is in the detail. Yes, concentric driver technology is a great solution to many problems, but there are many ways of implementing it: it's all about how you engineer the concept to get the best performance. With >



## 42 ACCESS ALL AREAS



**High altitude high-end:** Pioneer's S-IC651-LP speaker uses CST technology

wall, above the flatscreen; this transpires to be critical. 'The angle of that first reflection gets absorbed into the image and appears to lower the sound of the voice a couple of feet,' explains Jones. 'This means it's perfectly possible to use ceiling speakers for the front L/C/R. When you're watching a movie, your sight overcomes the impression of the location of the audio and locks the image into position. You get a pretty good impression that the audio is coming from the front rather than down.'

### Custom audio

I'm told that Pioneer got serious about developing in-wall/ceiling speakers for the custom install market about two years ago. 'We spent half of 2007 and all of 2008 working on the driver designs and moldings. Every part of the speaker is custom – custom chassis, custom cones, there's no off-the-shelf parts at all. That's one of the advantages of working with a company of Pioneer's status. There's nothing we can't tool up for.'

Do you think all this attention to detail will be appreciated? After all, most in-walls look exactly the same...

'Yes, it's true. People don't look at design features on in-walls. There's no design freedom because people don't want design freedom. Customers don't even want a badge on them. But that can be an advantage. When it comes to the higher-end of custom home cinema, it isn't the brand of a speaker that's critical; it's the performance of the speaker. In the US market particularly, the actual branding of the system comes from the dealer. It's not about looking at a component that's important, it's largely getting good word of mouth for the custom installer. And he/she will choose based on what he thinks will give him the performance level and consistency in any particular install he or she might do.'

As part of an ongoing strategy, Jones tells me that Pioneer has kitted out a loft apartment in Hollywood with an entire range of branded AV kit – Kuro plasma screens, all the electronics, and speakers – and has been courting recording engineers, cinematographers and directors for their feedback.

'We've asked them how we can help their fans see and hear what they see and hear when they make movies. This new in-ceiling range is part of that process. We are producing what the people who are making movies and music want you to hear. The creative community in Hollywood is very supportive.' ●

Tannoy, the tweeter is mounted behind the bass pole, so you can't get the same degree of time alignment. And then it's down to the tweeter profile, how it integrates into the baffle that adds to the performance.'

### Material world

The TAD range uses Beryllium midrange drivers and tweeters, yet such exotic materials aren't specced for these models. Jones has instead opted for less costly materials with similar properties; the S-IW691L in-walls sport cones made of a carbon composite and aramid fibres, a synthetic weave used to make body armour. These are the same drivers as those used in the S-4EX speakers (reviewed in *HCC* #170) and claim a tonal match, which allows them to be mixed for those listening rooms where both free-standing and in-wall speaker styles are required.

I'm intrigued when Jones says that it's possible to create an entire surround system using in-ceiling speakers. Cinephiles might well be sceptical about positioning all the sources so high, but Jones is confident and demonstrations are surprising. One piece involves concert footage. 'The voice doesn't seem to be coming from the ceiling, does it?' asks Jones. And he's right, it images much like a standard L/C/R array, somewhere mid-screen.

I note that for the demo, Pioneer's engineers have mounted the front in-ceilings close to the

## Solutions

### In-wall or out? The pros and cons of structural speaker design

If you're an AV enthusiast planning a home cinema room, and you can't decide which to go for – floorstanding speakers or in-structure models – what should be the deciding factor and what's the compromise?

We asked Andrew Jones, Pioneer's director of speaker engineering: 'Your wife!' he jokes. 'All the time I've been trying to sell our EX floorstanding speakers to people looking for a high-end home theatre solution, they ask, "What do you have for the rears?" When I pull out our S2-EX models, they'll say, "You're not serious," they're huge! I can't accommodate something like that! Don't you have something smaller or in-walls?'"

'Well that's part of the reason why we've created EX in-wall speakers (currently available only in the US market). We're taking the self-same drivers which are in the EX floorstanders and transposing them into an in-wall solution. Because they're the same drivers with the same cross-over points, you get a very good sonic match, both tonally and phase-response wise. You can freely mix and match anything in the range, between S1, S3 and in-walls and get a consistent soundfield from them all.'



**Only a phase:** Tonal response rivals floorstanders

So can an in-wall or in-ceiling speaker sound as good as a standalone model?

Andrew Jones thinks they can: 'In terms of the overall sound quality, I think we've got very close to what we can do with the standalone box speakers. I've actually surprised myself. You can get pretty close to the full box experience with these models, and I am really happy the way they turned out. There are only minor differences in quality.'



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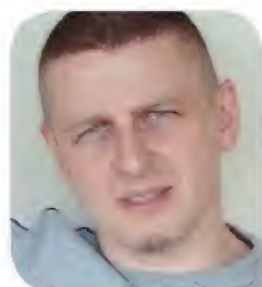
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**Introduce yourself...**

Staf Heyndrickx, 45.

**How long have you been an AV-holic?**

Ever since I bought my first VCR, about 20 years ago. Since then I've just wanted more and more. When DVD started to appear I waited just a little while and bought one – it's moved really fast since then. I was an avid Panasonic fan, but recently got a Samsung BD player in favour of the new Panasonic, and am feeling a bit sorry about that.

**What's in your AV setup at the moment?**

A Samsung LCD TV Series 8 LE40A856; Samsung BDP-3600 Blu-ray player; Onkyo DV-SP506 SACD, DVD-Audio/Video player; Digital TV from Belgacom (Belgian DTV provider); Onkyo TX-SR607 receiver; Xbox 360; and KEF 2005.3 speakers.

**And what are you planning to buy next?**

I'm set for now, but I might be tempted to buy an LED LCD TV...

**How much do you think you've spent on your AV habit?**

Literally thousands and thousands of Euros. It's too difficult to work out! Although it may seem a modest set-up, it all adds up to a big amount.

**What does your family think of your hobby?**

My wife likes it, and approves of it, as long as it doesn't cost me too much, so now and then I tend to change the numbers a bit. My 17-year-old son loves it, which is great – as long as he doesn't want to watch too many of his Japanese animé movies!

**What's your current favourite DVD or Blu-ray disc?**

At the moment it's still the Blu-ray of *Pan's Labyrinth*; great picture and sound, but there are many, many more...

**Are you keeping an eye on future tech?**

Yes, as long as things don't go too fast – you have to be able to enjoy your setup before thinking about what's coming next! ●

## Room essentials

### A Red devil

Samsung's LE40A856 LCD screen debuted in late 2008 with a then ultra-thin 44mm depth

### B New addition

Stan has recently installed this highly-rated Onkyo TX-SR607 receiver, perfect for handling hi-res audio soundtracks

### C Game on

An Xbox 360 caters for the family's HD gaming needs, and movie-streaming, too

### D Eggcellent audio

KEF's third generation of its iconic Egg speaker still uses Uni-Q tweeter/midrange technology to help create a wide soundstage. A perennial favourite

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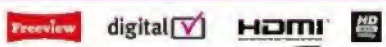
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# REVIEWS

→ **Hardware highlights** PANASONIC Ultra-thin plasma with WirelessHD  
 BOWERS & WILKINS Debut soundbar from Brit brand VELODYNE SPL-1200 Ultra subwoofer  
 ARCAM Flagship 7.1-channel HD AVR VIBE 5.1 home cinema array from car audio legends TEVION  
 DVD1100 Supermarket special 32IN GROUP TEST Six big brand LCDs go head-2-head AND MORE!



## Back in black

Yamaha returns to the high-end of amplifiers with the DSP-Z7. See p68 for our full review

### HCC Ratings key

Outstanding	1 2 3 4 5
Above average	1 2 3 4 5
Acceptable	1 2 3 4 5
Disappointing	1 2 3 4 5
Dire	1 2 3 4 5

HCC DOESN'T BELIEVE IN OVER-PRISING HARDWARE. CONSEQUENTLY, A THREE-STAR RATING SHOULDN'T BE CONSIDERED A BAD RESULT, IT SIMPLY MEANS THAT A PRODUCT PERFORMS ACCORDING TO ITS CATEGORY POSITION. A FIVE-STAR RATING IS ONLY AWARDED IN EXCEPTIONAL CIRCUMSTANCES



It's super-thin, comes with a separate media box, and claims to be friendly to the environment. But it's wireless Full HD that's the USP.

**Rik Henderson**

explains all...

**L**et's dispense with the foreplay, the Z1 streams 1080p24 wirelessly. Full HD Blu-ray video with no wires whatsoever. That's enough. Job done. Five stars. Now comes the padding.

Sitting at the top of Panasonic's Viera TV range, in both price terms and specification, the P46Z1 is an object of tech beauty. It's sleek, svelte and unashamedly trendy. A metallic finish equals high-end in the TV business these days. And I approve.

To be honest, though, the Z1's aesthetic elegance comes as a bit of a shock. Panasonic is not generally known for its fashion sense. Cutting-edge kit, yes. Dependable devices, more often than not. Indeed, the company puts a lot of stock in functionality and we applaud the gesture – as the swathe of *HCC* Best Buy awards testify. However, as natty as they perform, they're normally shrouded in blocky, placky, black boxes. Built by inventors, designed by undertakers.

This set bucks that trend and sticks two fingers up at the gloss black purists. There's still a wee nod towards the company's ebony leanings with the adoption of two, oddly-placed, black strips down either side of the glass, but with the speakers attached, the screen is handsomely and entirely framed in brushed aluminium.

It's also super skinny. In fact, at 24.7mm at its leanest point, it is easily the thinnest plasma panel I've seen (to buy, at least). It's LED TV thin, which is impressive for a plasma. There are even some that would buy this TV simply because of its waif-like nature, but they would be best advised to read on, there is a drawback...

The WirelessHD functionality requires the use of a transmitter and >







Panasonic



The TX-P46Z1's glistening bezel is a rare, silver-clad excursion for Panasonic - but note the ugly black wireless HD receiver hanging down bottom left...



## Evolving the plasma

The TX-P46Z1 is the latest in a long line of Panasonic PDP innovations...

### 2004



The TH-42PE30B was the first VIERA plasma TV and was launched to considerable

acclaim. It cost £3,700 at the time, featured a standard def panel and carried three Scart inputs...

### 2005



At a whopping 65ins, the TH-65PV500 was one of the first monster plasma screens

to hit the UK. It cost a staggering £9,000 on launch and also received a coveted Best Buy award in HCC 127.

### 2006



However, if we thought 65ins was massive, we were soon to be blown away by the gargantuan

103in 103PF9. It was awarded four-stars in HCC 139, and had to be craned into our reviewer's testing room!

### 2007



It was back to more manageable screen sizes, when Panasonic launched its

first Full HD 42in plasma panel (TH-42PZ700). We reviewed the 50in version in HCC 146.

### 2008



Who says size doesn't matter? In 2008, we saw the largest plasma TV yet unleashed onto

the world. The 150in panel sports a 4k2k resolution and was way too big to get into the HCC tech labs.

### 2009



And so we come bang up to date with the TX-P46Z1, the company's most svelte,

thin production plasma by far.

receiver, and the latter is bolted onto the back of the display. Therefore, the footprint, when mounted, is greater than expected – it sticks out approximately 50mm, twice the distance. That's still half the depth of, say, the Philips Cinema 21:9, but it undermines certain boasts.

In addition, the WiHD bolt-on isn't an aesthetic match to the bezel. It sticks out as a plastic anomaly. The end result is much like seeing Megan Fox with a massive, pustulant boil on her chin – you still admire the bodywork, but your eyes keep drifting towards the glowing lump.

Perhaps, though, that's a small price to pay for no wires, and those who are more adventurous than me may attempt to detach it and hide it out of sight, even though that's essentially against the point (it will still need to be wired to the HDMI port on the panel). It also doesn't look so bad when the set is sat upright on its stand (on a table), so maybe the add-on is not such a turn-off after all. It certainly does the job.

### In the air tonight

Streaming Full HD video and high-res audio is no mean feat. It takes considerable bandwidth to ensure a constant and clean feed of 1080p24 footage over 10 metres, yet the gizmos here perform that task admirably. Not once during testing was the signal interrupted or hampered by additional artefacts. Admittedly, I remained within the recommended catchment area, but it is highly unlikely that, with a set like this, you'll set the separate media box more than 32 feet away.

And anywhere within that area offers as clean an image as a normal HDMI cable is capable. That's it. There's no more to it than that. To be honest, it's weird being so impressed by something actually doing what it's meant to, but I am. And you will be too.

Of course, this isn't the first wireless HD TV system we've tested, Sony's ZX1 has that honour, but that was only capable of streaming a maximum of 1080i video. This Panny beats it hands down in a game of AV Top Trumps. It also has the better media box, by a country mile.

**WirelessHD aside, the separate media box is abundant with features and talents.** A Freesat tuner is par for the course on certain Panasonic TVs these days, so its inclusion here, alongside Freeview



and analogue counterparts, comes as no surprise. Nor does VieraCast, the company's 'net streaming portal, although the latter has certainly expanded in usefulness since I saw it last.

As well as a proprietary YouTube video browser and Picasa support for viewing photos (which have both been available since day one), Eurosport and Bloomberg have joined the party – for sports and financial news respectively – and there are weather reports too. It's proof of the system's ability for expansion and, while it's not as open a technology as, say, Philips' Net TV (with its full web browser), I certainly look forward to seeing other applications emerge over the coming months. The Z1 is capable of adding those as they become available.

The media box's LAN (Ethernet) port also allows the set to connect to a home network to stream JPEG pictures and DivX video from a similarly DLNA-certified NAS box or

### AV/CV

**Product:** 46in NeoPDP plasma with a superthin footprint and wireless HD media box

**Position:** Panasonic's flagship product. A 54in version also available

**Peers:** Pioneer KRP-500A; LG 50PS6000; Samsung PS50B650





### → Specifications

**HD Ready:** yes up to 1080p24  
**Digital TV tuner:** yes and Freesat  
**HDMI:** yes 4 x HDMI v1.3a  
**Component:** yes 1 input  
**PC input:** yes 1 x VGA  
**Sound:** Detachable, 2 x 20W  
**Resolution:** 1920 x 1080  
**Brightness (claimed):** NA  
**Contrast ratio (claimed):** 2,000,000:1 (dynamic)  
**Dimensions (w/o stand):** (with speakers and wireless unit) 1,249(w) x 805(h) x 48.5(d)mm  
**Weight:** (with speakers) 25kg  
**Features:** WirelessHD; 600Hz Sub-field Drive Intelligent Frame Creation Pro; THX Certified Display; Viera Cast; Viera Link; Viera Image Viewer; AVCHD, DivX & JPEG playback; SD Memory card slot

The panel is thin because a lot of the functionality is in the set top box, seen here with wireless transmitter on top

computer. There's also an SDHC slot, which can handle AVCHD video stored on compatible memory cards. Weirdly, though, neither method can play MP3s. I have no idea why... Surely that's easier than DivX video? Anyone? Bizarre.

### The ins and outs

Other socketry found on the media box includes four HDMI v1.3a ports (one of which is hidden under a front flap), a set of component jacks, and a couple of Scart in/out (remember them?). There's also a common interface socket, but with Setanta Sports being the second-most talked about demise in June, there's little reason for its existence at present.

It is inside the box that you find, perhaps, the most interesting doohickeys. Panasonic has obviously afforded the Z1 its premium picture tech, as also found on the flagship P50V10 reviewed last issue. Firstly, it utilises the company's NeoPDP plasma technology, including 600Hz >

### HCC Test card

HCC's test card has been designed to torture even the toughest screens...



#### A Grayscale

The rear pattern runs from 5% white to 100% black, and the P46Z1 had slight banding problems at around 60-70%, no matter what the settings

#### B Gold

Gold reproduction is a problem area for flatscreen TVs... usually. The Z1 displays shiny, gold objects with excellent realism

#### C Red

Plasma is far better at displaying true, deep reds than LCD, as the Z1 proves to great effect. The peppers and robot are both solid and rich



# The cable-free society

HCC chats with the **WirelessHD Consortium**

Sending Full HD images and high-resolution audio over the airwaves, with nary a cable in sight, is a revelation. And the AV industry is so convinced in the technology's potential that it has banded together to form the WirelessHD Consortium, a global organisation to regulate the standards and specifications in order to provide certain consumer guarantees.

To earn the WirelessHD stamp of approval, kit, such as Panasonic's Z1 plasma TV, must meet certain guidelines, as Lianne Caetano, the Executive Director of WirelessHD, explains...

## HCC: What is the WirelessHD Consortium and why was it formed?

**Lianne Caetano:** 'In 2005, a group of consumer electronics companies came together to discuss the optimal wireless technology options for home multimedia equipment. After thoroughly reviewing the common requirements, it became quickly understood that 60GHz wireless technology presented the best possible platform to address the growing bandwidth and application needs in home networking.'

'In order to address this opportunity LG, Panasonic, NEC, Samsung, SiBEAM, Sony and Toshiba joined together to form the WirelessHD Consortium. In later years, they were joined by Broadcom, Intel and, more recently, Philips.'

## HCC: What is the minimum specification required to be badged WirelessHD?

**Lianne Caetano:** 'WirelessHD has established a comprehensive compliance and interoperability

testing program available at authorised test centres. This compliance program provides consumers with confidence that their WirelessHD-enabled devices will comply with the standard and/or will interoperate with other WirelessHD devices, regardless of manufacturer.'

'When a manufacturer decides to produce a product based on the WirelessHD standard, we provide them with two options. If they simply want to promote their product without the WiHD logo, they must pass the compliance test specification (CTS) parts one & two. If the manufacturer wishes to use the WiHD logo on their products, it must pass all three parts of the CTS.'

'In other words, some products will be identified with the WiHD logo, while others will not, based on the preference of the manufacturer.'

'Users will be able to identify which products have passed all three levels of our rigorous compliance and interoperability testing by looking for the WiHD logo. In either case, all will be based on a standard specification backed by some of the biggest names in the industry.'

## HCC: As well as major brands adopting WirelessHD, is it possible that stand-alone accessories can comply with the standards?

**Lianne Caetano:** 'Absolutely. At this time, both LG and Panasonic are shipping their HDTVs with WirelessHD technology. In the fall, we anticipate more announcements from adaptor manufacturers. Adaptors provide consumers the ability to make their legacy wired equipment go wireless.'

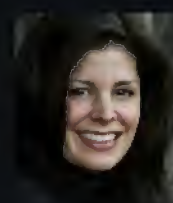
## HCC: With regular HD standards constantly changing, do your own standards change to suit? For

## example, will you support 3D?

**Lianne Caetano:** 'WirelessHD must keep pace with innovation; in addition, we will expand our application set. Since January of this year, we have been working on the next revision of the standard. At this time, we anticipate that WirelessHD 1.1, which will be backward compatible to WirelessHD 1.0, will support enhanced audio/video capabilities including 120Hz, 3D, and deep colour, as well as 2 and 4K resolution. Additionally, we will have expanded data capability and plan to support high-speed data communications for mobile devices.'

## HCC: And finally, can you see a future where all kit is wireless?

**Lianne Caetano:** 'Consumers inherently understand the value and benefits of wireless and it is important to bring them a high quality wireless alternative. I believe the majority of our devices in the home will operate with one another wirelessly in the future. However, I don't think we'll see wires go away entirely. At this point, a wire is still required for power!'



**Lianne Caetano**  
is Executive  
Director  
of the  
WirelessHD  
Consortium

## → Earning the badge...



### The key attributes of the WirelessHD specification include:

- High Interoperability supported by major CE device manufacturers
- Highest quality, lossless HD video, audio and data transmission, scalable to future high-definition AV formats
- High-speed wireless, multi-gigabit technology in the unlicensed 60GHz band
- Smart antenna technology for reliable non-line-of-sight connections
- Secure communications with DTCP and HDCP over WirelessHD technology
- Device control for simple operation of consumer electronics products using the standard TV remote control
- Error protection, framing and timing control techniques for a quality consumer experience



## Z1? You say...

**Jeremy Davidson:** It's a very good idea. Would I buy one? A big 'yes', but not at a premium. Other manufacturers should and will follow suit, they have to do so to make it a viable proposition. So bring it on but in a bigger size, say 65in or bigger.

**Simon Kingsley:** The idea of wireless TVs is very good. My girlfriend, especially, is no fan of cable spaghetti! But if Panasonic is serious about selling the set, as well as the concept, then it has got off to a very bad start by telling everyone, 'Look! Premium TV and new technology! Too expensive for the likes of you!'

**Steven Stanley:** I would like to think that WirelessHD will become commonplace as it will enable a more organic room setup. My friend was considering purchase of a WirelessHD TV due to the design of his front room, yet the current offers are prohibitively expensive.

**Bobby X:** Looks like a great TV but I don't think it can match the top Pioneers for picture quality. At this price I expect it to beat the Pioneers.

**William Fazo:** Give me less wires – our world is becoming wire-free.



The bolt-on WirelessHD receiver does upset the panel's aesthetic impact somewhat

processing for smoother motion, a natural colour engine and fast response (which is especially good for gaming, or so claims the brochure). This set is also, like the V10, THX-certified. Basically, it has a THX colour and gamma-balanced preset that ensures images during movie viewing are standardised – to great effect. But there's one, final, function that this specific panel uniquely has that is perhaps the most impressive of all... picture calibration!

**I almost fell off my chair when I found the advanced picture settings.** The Japanese manufacturer has never offered such precise control on its UK panels before, even though mainland Europe has had them on some set iterations. This time, however, we're honoured with gamma presets and individual RGB sliders (for gain), all of which allow the tweekers amongst us to have a good crack at calibrating the video performance if they're not happy with any of the presets; certainly a welcome step in the right direction.

As is picture performance per se. Black levels are, perhaps, not the Z1's strongest point – at times, deeply shadowed sequences don't quite deliver maximum depth – but there is an appreciative trade-off. Colours are great. Scrub that... The colours are exceptional! And the dynamic contrast ratio, as tested by the HCC Tech Labs, is an incredible 72,457:1.

Back to the colours though, they genuinely are superb, especially reds. This is definitely an area where plasma beats LCD about the head and toilet parts. Where bold red

objects, such as those found on Disney's CGI opus *Bolt*, can come across a tad orange with other TV technologies, plasma can display vivid, realistic hues, and the Z1 is incredibly proficient in this area. Its green rendering is masterful too. Basically, if you support Liverpool, next year's footie coverage will look amazing on this screen. Result!

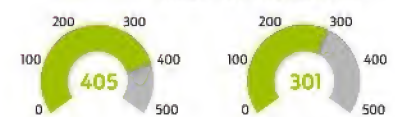
It'll sound fine too. Obviously, wafer-thin speakers are no match up against any 5.1 system, but I've not heard many superslim TVs that are better at creating a competent and beefy stereo soundstage.

So the only downside is essentially those black levels, but I'm not so sure that's such an issue. They're as good as those found on just about every other plasma TV on the market, and a darn sight better than on any CCFL-backlit LCD. The major argument would be that the picture quality of this, not inconsiderably pricey, TV is not as good as on a Pioneer Kuro. But then, a Kuro doesn't have WirelessHD. It doesn't have VieraCast, or certification for DLNA. Or THX. It doesn't come in a super-slim package. Oh, and a Kuro is no longer being made. That's fairly important.

To compare a Pioneer Kuro to the Panasonic TX-P46Z1 is like comparing a 1966 Alfa Romeo Spider to a BMW 5 Series. Undoubtedly, the Alfa looks better and enthusiasts will boast about owning one, but the BMW has a swathe of modern advancements and you can buy the parts if it ever goes wrong. The Z1 is a big step forward in TV design. End of ●

## → Tech Labs

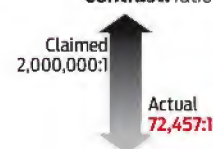
### Power consumption: Watts



**White screen:** As you're driving a big PDP and media box, it's not surprising that consumption with a white 100IRE signal is perhaps significant

**Powered:** With our test sequence and full audio, power consumption averages an excellent 301W. Eco mode saves another 100W in a dark room

### Contrast: ratio



**Picture:** In Normal mode the 9,982:1 contrast ratio is impressive enough, but in Dynamic mode the measurement leaps to 72,457:1 – still nowhere near the claimed 2m:1. Luminance is high for plasma at 30.31fl

### Colour temp: kelvin



**Presets:** Warm offers a very accurate balance and is our preset of choice. Full manual control of RGB delivers a perfect 6500K. **Normal:** 6,893K **Warm:** 6,539K **Cool:** 9,210K

## HCC VERDICT

Panasonic TX-P46Z1

£4,300 Approx

Price check: [www.techradar.com/613213](http://www.techradar.com/613213)

**Highs:** Wireless full, unabridged high-def video; superslim set; Freesat HD tuner;

**Lows:** Ugly WirelessHD receiver; black levels are a touch limited

Performance: **1 2 3 4 5**

Design: **1 2 3 4 5**

Features: **1 2 3 4 5**

Overall: **1 2 3 4 5**



# Monoliths hit a home run

**Adam Rayner** plays audio baseball with a set of classy tapered towers and a spherical woofer



**L**ong-term readers will recall that the first ever fully spherical subwoofer was the Omicron, and it won an HCC award in its day. Back then, it came literally as a ball, with a round ring-shaped stand on feet. You rested the sub in it and aimed it how you wished.

Nowadays, Omicron looks like a Pokémon and stands on three stumpy excrescences. And now, Little Fatty has gone shiny, acquired some friends and has gone up in the world as a result.

## Not just a pretty face

Having drooled over the photoshoot, you'll no doubt be wanting to know how well the system works. The answer is startlingly well.

I had a pair of the cast resin Monolith Threes (which look bloody gorgeous in a baseball bat kind'a way), which were scary to unpack. I wouldn't actually use the supplied white gloves – my advice is to just take off your jewellery, handle with moisturised hands, and polish them up afterwards. These are weighty items. The audition system also came with a stumpy pair of Monolith One rears, with rubbery cups to stand them endways, and a centre speaker, the Monolith Two, that came with two rubber rests. All the cabinets feature the same Kevlar midbass driver and silk dome tweeters and all are arrayed in the classic way – D'Appolito for the L/C/R and a simple two-way configuration for the rears. Of all the speakers, only the centre

### AV/CV

**Product:** Stylish and aimed squarely at folks who buy speakers with their eyes, it is nevertheless also made to hit hard

**Position:** New product of an award-winning designer – as cool and stylish as possible yet offering full fat performance

**Peers:** Infinity TSS-4000; KEF KHT-6000; B&W VM6

box is sealed rather than ported.

I unleashed the Blu-ray edition of *Push* and the Vibes loved it. The film is great fun and a real slice of expert sound design. With empty space used as brilliantly as kicking new music and genuinely creative sound effects, the contrast is huge. The movie features 'Bleeders' who have a sonic psychic attack mode. The idea is, it should make you wither, and you do, to an extent. (While possible, Hollywood is not allowed to actually hurt you with pro sound systems in theatres. Shame...).

One Bleeder attack sees glass and fish tanks shattering in waves about the POV, and the rears are given a savage battering. Elsewhere, scenes in the streets of Hong Kong offer rich textures of realism and **the Monoliths, although obviously not a hi-fi item, had ability** way past what you might have thought, to look at them.

I have heard a plethora of 4in driver-based systems and while they all seem to specify well enough, most have yawning holes in the scale of their midbass and upper treble department. They simply seem unable to move or excite the air enough. But the Monoliths are different, as the boxes that house the 4in drivers are luxury accommodation, acoustically speaking. They are posh and sexily-shaped but as flexible and bendy as carved granite.

Poke a finger up the holes in the back of the Monolith One or Three >





Vibe has perfected the futuristic Stonehenge look





and you'll feel a softly gas-flowed curve, as their port tubes are bent inside. The port is longer than the box size seems to want to allow. Movement of air to allow reproduction of bass is meat and drink to the Vibe's designer and the result he came up with works. Married to 'known good' tweeter technology all round with no compromises on driver quality as you get to the smaller models, and you have the result here.

#### Monolith 3s:

Nothing understated here in looks or performance

Two things I dislike, though, are that while the Monolith Three gets super sexy high-end speaker wire terminals, the One and Two both get

lowest common denominator parts. As a reviewer I care more than I should about this as, once fitted, you'll not look at them again, and I'm certain they are electrically sound, but overall it still seems a pity.

The other thing is that the old Omicron subwoofer had an exterior amp and was deliciously mad-looking as a result. The new one is far cuter but more sensible, with an 8in driver and mere 70W amplification. On the other hand, the Monolith Three floorstanders can rock. So when *Push* gets going and multiple gunplay and psychic thingies are all zoinging about, the Omicron sub was found to be wanting. It neither goes deep or loud enough to keep up.

The sub may be great for music but scary, deep bass and explosions aren't its *forté*. This is a shame as **I know that Vibe the brand can literally hurt you with its bass** (check out the Vibe Bass Tunnel on the brand's website, which uses 40 x 15in subs!). Personally speaking, I want to see a 12in beast with serious Class D amplification and a return to the older style of exterior amp.

The Monolith One and Two are cute and can make great systems of their own – where they will be perfect for the Omicron – but the Monolith Threes are just so cool. You get the plinths, with two double-ended male banana plug shafts and a bolt per speaker. The speakers' passive crossover bits are in a case in the plinth, where the WBT-style connection plugs sit. The tapering towers connect one positive each for tops and lows, and earth through the bolt. You connect the slightly asymmetrical banana plug shafts up, slide into place, and tighten the Allen bolt.

Stood next to the black chassis of my Panasonic plasma, they looked like they were born for it – dead sexy from every angle. You can mount the others on different sorts of wall brackets, too.

#### More bass please!

What we have here is a very good-looking designer system with real muscle and detail-resolution ability. It's ideal if you want a high-octane surround system. But it could be improved further. I'd want a Vibe subwoofer other than the Omicron myself, or maybe two, or better yet a mad great statement of a fifteen inch Omigodicon with 'Space' metal cone woofer driver and a stupidly big amp for £1,000. Then you'd be talking! ●

#### → Specifications

##### Vibe Monolith Three towers

**Drive Units:** 2 x 4in Kevlar midbass drivers; 1 x 1in silk dome tweeter  
**Enclosure:** Cast resin two-way rear ported with passive crossover encased within pedestal and spikes/rubber feet  
**Frequency Response:** 50Hz-20kHz  
**Sensitivity:** 88dB (2.83V @ 1m)  
**Power Handling:** 40-80W  
**Dimensions:** 1105(h) x 153(diameter)mm  
**Weight:** 12.4kg

##### Vibe Monolith Two centre

**Drive Units:** 2 x 4in Kevlar midbass drivers; 1 x 1in silk dome tweeter  
**Enclosure:** Cast resin two-way sealed  
**Frequency Response:** 60Hz-20kHz  
**Sensitivity:** 88dB (2.83V @ 1m)  
**Power Handling:** 40-80W  
**Dimensions:** 470(w) x 150(diameter)mm  
**Weight:** 6.3kg

##### Vibe Monolith One surrounds

**Drive Units:** 1 x 4in Kevlar midbass driver, 1 x 1in silk dome tweeter  
**Enclosure:** Cast resin two-way rear-ported with rubber pedestal-cup  
**Frequency Response:** 65Hz-20kHz  
**Sensitivity:** 85dB (2.83V @ 1m)  
**Power Handling:** 25-50W  
**Dimensions:** 330(h) x 150(diameter)mm (not including cup)  
**Weight:** 3.8kg

##### Vibe Omicron subwoofer

**Drive Unit:** 1 x 8in paper cone  
**Enclosure:** sealed spherical cast resin with three rubber dot feet or spikes  
**Frequency Response:** 45Hz-500Hz  
**On board power:** 70W RMS from Class AB amplifier  
**Dimensions:** 370(w) x 372(h) x 331(d)mm  
**Weight:** 12.5kg  
**Connections:** Phono stereo and high level (speaker level) input



#### HCC VERDICT

Vibe Monolith 'Classic Package'  
 £1,900 Approx

**Price check:** [www.techradar.com/611897](http://www.techradar.com/611897)

**Highs:** Startling potency from the very handsome looking baseball bat-shaped speakers

**Lows:** The subwoofer could be bigger, or do with a mate in any Monolith system

**Performance:** 1 2 3 4 5

**Design:** 1 2 3 4 5

**Features:** 1 2 3 4 5

**Overall:** 1 2 3 4 5







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# Little red devil

With a sporty paint job even louder than its woofer, this compact sub knows how to drive a room. **Jim Hill** takes it for spin

Most subwoofers tend to get shunted behind the sofa or disguised as a coffee table, but not Velodyne's. The Californian bass specialist designs boom boxes that stand out from the crowd, and its UK distributor Redline offers custom finishes in whatever colour you want for an additional fee. On test here is the daddy of the SPL-Ultra series, in an equally unsubtle Ferrari red.

But appearances are deceptive. The cabinet, although bigger than the 1000 (reviewed *HCC* #168), is still surprisingly compact. Its agile 12in cone can convey the slightest murmur as well as rising to the occasion when the volume goes up. What's equally impressive about the Ultra series, though, is the generous feature set that's been crammed into its glossy MDF cabinet.

**Setting up a subwoofer is something of a dark art. If you don't get it right, it can sound very wrong.**

Thankfully, with the SPL-1200 Ultra, you simply plug in the bundled mic, stand it in your viewing position, and press EQ on the remote. A series of bass sweeps are emitted that allow the sub to set its own equalizer to give you the best bass performance.

You can still choose the volume, phase and crossover frequency yourself, of course. It's best to set the crossover higher, between 80-100Hz, if your speakers are small or if you're using THX post processing, and lower if they are large, to get the smoothest transition to your sub.

A large LED display keeps you abreast of settings, changeable via the usual Velodyne credit card-sized remote zapper. These include volume, night mode and four listening presets.

So, this is an easy sub to set up, and with its wide frequency range it's flexible, too – in a mid-sized room it slotted right into a family of compact

M&K speakers with little tweaking.

A relatively big 12in woofer like this takes a lot of driving, hence the fairly potent integrated 1,200W class D amplifier, which holds a reserve of power so it never runs out of steam. What you notice is a very smooth transition from a subtle whisper to a thumping explosion.

I put this agility to the test with the DTS-HD Master Audio of *Valkyrie* (Blu-ray), which packs everything from ambient music to exploding shells. I've tried bigger subs that manage more rumble for your money, but few that are so quick to deliver a punch and so accurately. You can turn this red devil up to 80dB with the remote control and it'll still sound in control – even while it's making your trouser legs flap. Impressive.

## Heats up music

During its quieter moments, the 1200 manages to convey (heavy) footfalls with the same accuracy, and it's just as happy applying its fast response to music. It'll add warmth to any 5.1 musical score and get your feet tapping by punctuating the bass lines. Michael Jackson's *Thriller* on Super Audio CD sounds even more infectious than usual.

It's worth experimenting with the four preset sound modes at this point too. Perhaps surprisingly, I found the Jazz setting yields the best results, but it's nice to have other options.

This excellent sub's only real competition comes from its younger brother, the SPL-1000. Both models manage a similarly precise performance, perhaps because they share the same amplification, and the features are identical too, so you're really paying more for the bigger bass driver and cabinet. This gives a little more extension and would better suit a larger room. My advice is to audition the smaller sub first, but be prepared to trade up ●

## AV/CV

**Product:** 12in, 1200W subwoofer with remote control

**Position:** Top of Velodyne's SPL Ultra range; one of many woofers in its stable

**Peers:** REL 505; B&W ASW750; Sunfire HRS-12

## → Specifications

**Drive Unit:** 12in forward-firing long-throw

**Enclosure:** Sealed

**Frequency Response:** 21-120Hz +/- 3dB; 13-240Hz overall

**On-Board Power:** 1,200W RMS

**Dimensions:** 387(h) x 378(w) x 470(d)mm

**Weight:** 22kg

**Connections:** Speaker-level binding posts; 2 x gold plated line-level inputs/outputs; mic input; infra-red extender input



## HCC VERDICT

Velodyne SPL-1200 Ultra  
£1,395 Approx (plus £250 custom finish)

**Price check:** [www.techradar.com/613234](http://www.techradar.com/613234)

**Highs:** Slick design and finish; useful auto calibration feature; tight, powerful bass

**Lows:** Few added benefits over the step-down model; could punch harder

**Performance:** 1 2 3 4 5

**Design:** 1 2 3 4 5

**Features:** 1 2 3 4 5

**Overall:** 1 2 3 4 5





“.....without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity”

# LOOKING FOR A HOME

How easy is it to buy a home cinema system that suits you? You could read the magazine product reviews, find out who sells the recommendations, five-star favourites or best buys at the cheapest price and place your order. When the system is delivered to your door in the box, you get a friend who knows his onions to install it - and live happily ever after.

This is a fairly well-trodden path but it leads to dissatisfaction and a lot of wasted money. Besides there being a bewildering choice of components on the market today, there are also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, plasma or LCD, an HD ready set or one with full 1080p capability? And on the audio side do you plump for a 5.1 or 7.1 speaker system, passive or active sub, and where do you site them for the best results? The choice of home cinema amp raises even more questions. Will you be listening to music through the same system? If so, you need an amp that approaches the performance of a decent 2-channel hi-fi amp, which is not that easy to find. Do you need SACD, DVD-Audio, or Blu-ray capability? How many inputs do you need for video, s-video, component, coaxial digital, optical digital and HDMI? The above are just a small percentage of the decisions that must be made. In short, it's complicated and very fertile ground for getting it wrong.

## Achieving potential

To select a system, you could choose a collection of 'Best Buy' components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that the majority of home cinema systems selected and installed on a DIY basis, that is without professional input, are performing at way below their optimum level. To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity.

Our aim must be to buy a home cinema system that will provide an excellent picture quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

## What and Where to buy

To ensure a home cinema system is right for you, where do you start? Here's an important tip ... **don't** start with **WHAT**, start with **WHERE**. There's only one way to give yourself the best chance of getting it right first time, and that's through a specialist AV dealer. It's possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit you.







Listed on this page are 20 of the best AV shops in the country. They have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.

## STAR QUALITIES

VALUE FOR MONEY..... ★ ★ ★ ★ ★

SERVICE..... ★ ★ ★ ★ ★

FACILITIES..... ★ ★ ★ ★ ★

VERDICT ..... ★ ★ ★ ★ ★

# CINEMA SYSTEM?... ...ask the experts

## Buying or being sold to?

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

## Getting the best deal

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a nicer way of doing business than just handing over boxes.

## OUR TOP 20 UK SPECIALIST AV DEALERS

### SOUTH

#### Ashford, Kent **SOUNDCRAFT HI-FI**

40 High Street.

01233 624441

#### Chelmsford **RAYLEIGH HI-FI**

216 Moulsham Street.

01245 265245

#### Colchester **RAYLEIGH HI-FI**

33 Sir Isaac's Walk.

01206 577682

#### Kingston-upon-Thames **INFIDELITY**

9 High Street, Hampton Wick.

020 8943 3530

#### Rayleigh, Essex **RAYLEIGH HI-FI**

44a High Street.

01268 779762

Custom Install Dept.

01268 776932

#### Southend-on-Sea **RAYLEIGH HI-FI**

132/4 London Road.

01702 435255

#### Tunbridge Wells **KENT HOME CINEMA**

69 London Road, Southborough.

01892 535007

#### Worthing **PHASE 3 HI-FI**

213-217 Tarring Road.

01903 245577

### LONDON

#### N1 **GRAHAMS HI-FI**

190a New North Road.

020 7226 5500

#### SW11 **ORANGES & LEMONS**

61-63 Webbs Road, Battersea.

020 7924 2040

### SOUTH WEST

#### Exeter **GULLIFORD**

97 Sidwell Street.

01392 491194

### MIDLANDS

#### Birmingham **SOUND ACADEMY**

152a High Street, Bloxwich, Walsall.

01922 493499

#### Coventry **FRANK HARVEY HI-FI EXCELLENCE**

163 Spon Street.

024 7652 5200

#### Nottingham **CASTLE SOUND & VISION**

48/50 Maid Marian Way.

0115 9584404

#### Solihull **MUSIC MATTERS**

93-95 Hobs Moat Road.

0121 742 0254

### NORTH

#### Chester **ACOUSTICA**

17 Hoole Road.

01244 344227

#### York **SOUND ORGANISATION**

2 Gillygate.

01904 627108

### SCOTLAND

#### Edinburgh **LOUD & CLEAR**

Bonnington Mill, 72 Newhaven Rd.

0131 555 3963



The majority of the above dealers are members of one or both of the major trade organisations, BADA or CEDIA.





# Raising the bar

B&W has launched its first high-grade soundbar, the Panorama, but, asks **Jim Hill**, can the brand's trademark magic survive the form factor?

There's no denying the convenience of a soundbar. Essentially an entire speaker system in one submarine-shaped cabinet, they are designed for wall-mounting underneath your flatscreen TV, with many offering technologies that simulate a 5.1 soundfield. But while they are certainly practical and increasingly popular, they also usually involve a sonic compromise, and I've found the results are patchy at best. So can B&W's high-end offering, named the Panorama, set a new standard for one-box cinemas?

There are design similarities between the Panorama and B&W's Zeppelin iPod hi-fi – not surprising

as the latter was a huge commercial hit for the company, and proved it could turn out tuneful systems as well as studio-grade speakers.

The Panorama shares its exquisite engineering, with tapering cabinets and a seductive stainless steel skin.

It's definitely the most elegant soundbar I've come across, but not the smallest. The unit is elongated to accommodate nine separate drivers and weighs over 14kg. Unlike most products of this type, the subwoofer is built-in and so is the amplification. A type C digital amp drives all five channels at 25W each with another 50W powering the sub.

So what you have is a 5.1 surround sound system, complete with

**Product:**  
5.1-channel  
soundbar

**Position:**  
Unashamedly  
high-end, single  
bar solution

**Peers:**  
Yamaha  
YSP-40D;  
Marantz ES7001

amplification and a neat pebble-shaped remote control to switch audio inputs. You could connect your TV and an iPod to one of the analogue inputs for example, and a Blu-ray player or set-top box to one of the digital inputs. **What you don't get here, however, is any kind of video input, so you can forget about HDMI switching altogether.** It would have been useful, but would also have added a whole new level of complexity and price.

Without video circuitry, the Panorama is easy to set up. Simply connect your source – in my case a bitstreaming BD deck – and you're ready to rock.





The speaker is designed to sit on a table or fix to a wall via its own bracket; a switch in the menu recalibrates the speaker for each position. You'll need the little remote to do this from the sofa, so don't lose it. There's no onscreen menu, of course, but the Panorama's display is large enough to see what volume level you're on and toggle between stereo, wide and surround sound.

In surround mode, all six channels are active as the Panorama floods the room with crisp sound. The fronts and centre face directly forwards, while the rear speakers mounted on the curve of the speaker use the side and back walls to bounce soundwaves. With *Battlestar Galactica*'s lively 5.1 mix (Blu-ray, on sale September), I got a good impression of Starbuck's Viper taking off and zooming through space. Without rear speakers the Panorama doesn't quite manage to place the craft behind my head, as a traditional 5.1 setup would – I've yet to meet a soundbar that can – but it does disperse the audio to create a tangible sense of spatial depth.

What sets the Panorama apart from its rivals is its refreshing clarity and impressive separation. With all those drive units huddled like peas in

a pod, the sound could become muddled and compressed, but here it can really sing. Switching into stereo mode cuts out all but the front left and right channels and delivers a tuneful performance with two-channel material, and it still projects well into the room. Its dispersive nature means there's a wide sweet spot, so you won't lose the stereo image when you cross the room.

You can enhance the dialogue channel if necessary, but there's no real need – voices, effects and music all sound distinct in the mix and propel well into the room. You can also make basic adjustments to the tone to suit a space with hard surfaces or soft furnishings, which does make quite a difference. And the diminutive subwoofers are remarkably effective. I found myself dialling the level down more often than up, but it's nice to find a low frequency extension lurking in such a slim cabinet.

## Untouchable

Despite the paucity of features (did I mention there's no radio tuner or iPod dock, or HD audio support?) Bowers & Wilkins' Panorama is a formidable soundbar debutante. I suspect it'll sell by the truckload ●

### Speaker array:

There are nine drivers lurking in the Panorama's chassis



## → Specifications

Amplified power: 5 x 25W

Subwoofer: 50W

Drive units: 1 x 1in metal dome tweeter; 4 x 3in surround channels; 4 x 3.5in subwoofers

Frequency range: -6dB at 36Hz and 50kHz

Decodes: Dolby Digital;

Dolby Pro-Logic II; DTS

Inputs: 2 x optical digital; 1 x coaxial digital; 2 x analogue; stereo minijack

Outputs: Subwoofer pre-out

Dimensions: 130(h) x 1,090(w) x 186(d)mm

Weight: 14.1kg

Also features: RS232 port; wall bracket included; remote control



## HCC VERDICT

Bowers & Wilkins Panorama

£1,500 Approx

Price check: [www.techradar.com/613210](http://www.techradar.com/613210)

Highs: Practical and beautiful design; superb build quality

Lows: No video switching; limited rear channel effects

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5





What no volume knob? Arcam's new AVR gets minimalistic

# Brilliant Britannia

Following thousands of hours of research and development, Arcam's first ever HD audio AVR has arrived. **Alvin Gold** says the wait was worthwhile



**I**t often seems that British brand Arcam works in ways that are fundamentally at odds with other companies of its type, because while it has turned to Far Eastern factories to manufacture some of its products, the engineering remains strictly homegrown. You see, Arcam has a passion for generating its own often startlingly-innovative solutions for components that others can supply off the shelf, and this gives it a certain freedom that it has

long exploited, for example, in designing the only British cassette deck with Dolby S (in fact the only domestic cassette deck, full stop), the first DAB tuner, the first standalone D/A converter, and more. Not that all these products were successful commercially, some indeed were spectacularly mistimed – thankfully, the eagerly awaited AVR600 AVR isn't one of *them*.

This gleaming, beautifully-finished new addition to Arcam's FMJ stable is

**If looks could kill:** The AVR600 has the style to match its premium price tag

a sophisticated AV receiver that follows a root and branch re-examination of the usual choke points of AV amplifier design, and introduces a number of key technologies to the Arcam range. It is the culmination of a three-year project, Arcam's biggest ever; the design alone involved writing 1.5 million lines of computer code.

The result is spectacular, unconventional and at times quite startling. Like some of its newer





### → Specifications

**Dolby Digital TrueHD:** YES plus Digital, Digital Plus and Pro-Logic II/IIx  
**DTS-HD Master Audio:** YES plus DTS, DTS-HD High Resolution, ES  
**THX:** NO  
**Multichannel audio:** YES 7 x 120W amplifiers  
**Multichannel input:** YES 7.1 phono  
**Multiroom:** YES two extra zones (audio only in Zone 3)  
**AV inputs:** YES 5 x composite & S-video; 7 x digital audio inputs (3 x coaxial, 4 x optical); 9 x stereo analogue  
**HDMI input/output:** YES 5-in, 2-out (v1.3a)  
**Video upscaling:** YES to 1080p  
**Component:** YES 5-in, 1-out  
**Dimensions:** 433(w) x 35(h) x 185(d)mm  
**Weight:** 25kg  
**Features:** Dolby Volume; USB input; iPod support; 2 x RS232 ports; 3 x 12V triggers; Ethernet; DAB/ FM/ AM stereo tuner with 100 presets; bi-amping of front left/right

rivals, the AVR600 sets out to tackle head-on the normally horrendous level of audio jitter that afflicts HDMI. Traditionally, audio in the HDMI interface doesn't have its own clock – it's shoehorned into the video signal waveform – and the challenge for Arcam was to reduce jitter to the level associated with good CD players, which has been achieved with some novel design courtesy of a new Wolfson SPDIF receiver, and some fancy footwork with the surrounding clock recovery circuits.

### Lovin' Dolby Volume

Another issue with a home cinema amplifier is heat management. Multiple channels operating at once tends to mean very-hot-running amplifiers and losses of output power. **What marks the AVR600 out is that it's a Class G amplifier** – an analogue (not digital) technology that involves some clever jiggery-pokery with the power supply high-voltage rails, with the aim of minimising heat dissipation while preserving sound quality and power yield. The benefits are comparable to

### AV/CV

**Product:** 7.1-channel HD audio receiver with high-quality components

**Positioning:** Arcam's only AVR sits alongside a range of pre-amps, power amps and processors

**Peers:** Actually, it doesn't seem to have any – it's positioned above the £2,000 flagbearers from Yamaha and Denon

those available from digital amplifiers in terms of heat dissipation and efficiency. This gives the AVR600 some green credentials, but without the collapse of power output into multiple channels heard with most analogue amplifier circuits.

In combination these developments give the AVR600 better power delivery and lower audio jitter, but there is more to the AVR600 than these things alone.

Unsurprisingly, the Arcam packs the latest surround sound codecs aimed primarily at Mr Blu-ray user – Dolby Digital TrueHD, DTS-HD Master Audio and their associated stablemates, although passes on Dolby Pro-Logic IIz height processing and THX post processing. More unusual is Dolby Volume, a sophisticated compression technology designed to equalise sound levels, between programmes and ad breaks. This also transpires to be a genuine boon when mix and matching a variety of sources. There's also a Cinema Mode which crunches the dynamic range of a soundtrack together for late night listening. This should not be used as a default, as

the dynamics fall away.

The AVR600 is custom install-friendly, too, with multiple 12V triggers, IR receivers, multi-room/multi-zone capability, and an almost insane array of inputs and outputs. The receiver can upscale (or even downscale if necessary) virtually any input from composite video to 1080p, as long as it is a legal operation not prohibited by mandatory copy protection issues. Of course, it supports USB based audio and iPods. In addition to an FM receiver, there's a DAB tuner and internet radio.

### Performance

Although there are a lot of sockets, I encountered no special configuration problems with the AVR600; the uncomplicated (and graphically unambitious) user interface allows ready access to settings, with an easily understood front-panel control system. There's a simple-to-use microphone assisted setup and an intuitive remote control. Much of my listening used Yamaha speakers – the Soavo-1 and Soavo-2 as front and rear speakers respectively, with





**Wot no Blu-ray:** Labelling of connections is somewhat odd – there's no HDMI designated for BD, yet there is one for a VCR

an Onkyo D-312E, a two-way compact, pressed into service as a centre speaker (this model is a strikingly good voice match for the Yamahas), and a Monitor Audio PL-12 subwoofer. Blu-ray and other DVD replay came from a Denon DVD 2500BT transport, and an Infocus DLP projector was used. Finally, a pair of Monitor Audio PL-300s were plumbed in for two-channel stereo listening.

Digging into every aspect of the AVR600 will take a user some time, but the exploration should prove enjoyable. Working my way through the key features and operating modes yielded results which ranged from merely acceptable (the FM radio and, inevitably the DAB tuner) to hackle-raisingly excellent (most of the surround codecs, including Dolby TrueHD). The latter come into its own with *Cloverfield*, a bizarre but well-made piece of baloney, which is full of surprise changes of audio perspective and dynamic range. With a lossless codec like Dolby TrueHD, **the Arcam is undeniably compelling, and occasionally shocking** in a way that Dolby Digital could never hope to be.

With other more straight-laced material, including Blu ray versions of *Earth* (chosen primarily for its stunning visuals), and *Quantum of Solace* (which wasn't), the Arcam strutted its stuff well, and showed just what a thoroughbred it is.

Beneath the lid, the AVR600 uses a single IC featuring eight Crystal Semiconductor DACs; chosen for simplicity and uniformity of sonic quality. When asked why no Wolfson DACs, usually the preferred high-end option, Arcam revealed that its upcoming processor variant, the

AV888, will feature eight Wolfson 8741s. Not that I believe there is anything lacking in the Crystal designs. The AVR600 is an accomplished stereo performer, in its element with all manner of music, ranging from solo material (eg Suzanne Vega) to largescale choral stuff (including Brahms' *Requiem*). It's worth noting though that this model is not overtly musclebound.

HCC's tech tests tell an interesting story though. Our Power Output measurements confirm that while the AVR600 may lose out in a volume face-off, it has quality chops. We rated its power output at around 100watt with five channels driven, but it sounds a lot more empowered. Probably because, as our secondary Pure Power Fidelity Firewall measurement confirms, the Arcam will run at full-power without distortion. Other similarly specced amps may shout louder, but they pay for it in levels of THD.

## Obvious Upgrade

There are some caveats, of course. The user interface is distinctly Arcam and the GUI is particularly spartan when you venture into the world of 'net radio, while the backpanel labelling is at best odd (no BD-labelled HDMI?). The model also has a tendency to POP loudly when switching sound streams between BD menus and lossless codes.

On the plus side, it boasts a well-conceived suite of video and audio technologies, gifted with a sound quality to warm the heart. For long-time Arcam fans, this is the most obvious of upgrades, and comes with an unreserved recommendation. And it may well convince others to follow. This truly is a receiver for all reasons ●

## → Tech Labs

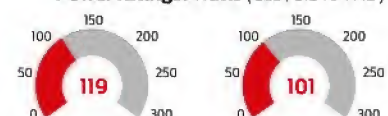
### Power consumption: Watts



**Idling:** Unsurprisingly for such a powerful amp, even when idling the consumption is enough to light the average living room

**Powered:** In five-channel mode, power consumption jumps to 826w, indicating a reasonable level of efficiency

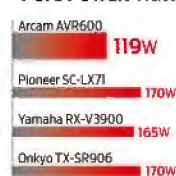
### Power ratings: Watts (8Ω, 0.5% THD)



**2-channel 8Ω:** Arcam claims 150W output with two channels driven; we found the amp delivered nearer to 120W. Still, the devil's in the detail

**5-channel 8Ω:** With five channels driven, output drops to closer to 100W per channel; compared to some Japanese AVRs, this model lacks brawn

### Pure Power: Watts



### Signal/noise: dB



**Fidelity firewall:** The sonic purity of the output of this receiver is beyond reproach. You can drive the Arcam at full volume without distortion

**S/N tests:** Very good figures at lower frequencies give way to good results at middle and high frequencies



## HCC VERDICT

Arcam AVR600  
£3,500 Approx

Price check: [www.techradar.com/613252](http://www.techradar.com/613252)

**Highs:** Sophisticated, flexible and polished; gorgeous design

**Lows:** The GUI can be terse at times, not a powerhouse

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



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## The latest news from the world of HD and Panasonic



# Kickass kinsman

Yamaha's seven-channel power pusher borrows all the best bits from its ultra-high-end big brother, the DSP-Z11, says **Richard Stevenson**



I can understand why Yamaha's DSP-Z7 has come to be. The company's flagship DSP-Z11 is just a little too extreme for many. Extreme on the wallet, extreme on the features count, extreme in performance and extreme in its demand for loudspeakers – ideally 11 of them and two subwoofers. Back in the real world, where UK homes get ever smaller and low-clutter décor is

the prevailing fashion, the Z11 remains an awesome niche product at the top of its game. Only the well-heeled (who can have the system discreetly custom installed), or nutters need apply. Yes, I do have one.

Once Yamaha's engineers had recovered from their four-year power-trip creating the Z11, it suddenly seemed like a good idea to make a Z11 'lite'. Say, most of the

**Fascia the facts:**  
Yamaha's fondness for an orange display is still present

power, most of the performance, most of the features – only at half the price. They lopped off the last four channels, lost the THX certification and THX post-processing, cut back on the really esoteric components, slimmed down the power supplies and put everything in a smaller chassis. The result is the much more affordable and very appealing DSP-Z7.

Behind the pull-down flap are additional inputs, including USB and HDMI





In fact, my *blasé* description of how the Z7 has been created is not that far from reality. This amplifier offers 7 x 140W as opposed to the Z11's 7 x 140W + 4 x 50W, and almost every feature of its bigger brother and most of the connectivity. You still get four-zone multiroom, Ethernet networking and Advanced YPAO Room EQ – complete with the whacky mic-support plinth that looks like a tri-lobed boomerang. I did try throwing it – it didn't come back.

The onscreen GUI is also a hand-me-down, still looking pretty cool even if the competition for designer GUIs has become really hot of late. I suspect Philippe Starck and Lawrence Llewellyn-Bowen will have to be called in for the next round of onscreen display makeovers.

Under the hood, there is a swathe of big-name goodies from the likes of Anchor Bay and Burr-Brown, and a comprehensive tick list of must-have features on a two-grand amplifier. HD-audio bitstream decoding? Tick. Dual-output v1.3 HDMI connectivity? Tick. Comprehensive picture

## AV/CV

**Product:**  
Yamaha's  
£2K Z11 'lite'  
amplifier

**Position:**  
Second only to  
the Z11 in the  
brand's  
nine-strong  
range of  
amplifiers

**Peers:**  
Denon  
AVR-4310;  
Pioneer  
SC-LX81;  
Marantz  
SR-8002

adjustment? Tick. Connectivity for iPods (via optional dock) with the ability to display album artwork on screen? Tickety tick.

Yamaha continues to allow you to switch the rear-channel output to its front 'presence' channels if desired. Ironical, then, that the Z7 doesn't yet offer Dolby Pro Logic IIz, which can drive front height channels.

I have now been around long enough for Yamaha's black fascia and orange display cosmetic to come back into fashion – for the second time. Twenty years on and I still don't like it. You can't fault the Z7's robust build and purposeful stance on the rack, though, and the drop-down fascia offers access to almost all functions should you manage to lose both the main and secondary remotes. Setup is fully automated – saving you moving the mic around – and the overall ease-of-use is none too bad at all.

## YMCA

It's a little known fact that HCC's office theme tune is 'It's fun to play

with the Y P A O,' sung to the tune of Village People's YMCA. Not only has this been adopted as it allows Editor Steve May to wear his biker gear and leather chaps in the office, but also because Yamaha's Parametric room Acoustic Optimiser (YPAO) has proven to be one of the most effective room EQ systems on the market. The Z7's implementation is no exception, and, after running a simple three-position setup with the supplied boomerang stand, the results were subtle yet impressive. Gone was a slight room-induced boom around 50Hz, and the dip in the front-right channel – due to the sound disappearing out of my bay window – had been balanced out. YPAO isn't an overt filtering and boosting system that trashes fidelity, but a careful trimming of some problem frequencies to give a sprightly and detailed sound with plenty of punch.

Punch, in fact, is something that the Z7 has by the truck-load. The action sequences throughout the new edition Blu-ray of *Terminator 2*: >



## → Specifications

**Dolby Digital TrueHD:** YES plus Digital, Digital Plus and Pro Logic II/IIx

**DTS-HD Master Audio:** YES plus DTS, DTS-HD High Resolution, ES

**THX:** NO Shaved off this model

**Multichannel audio:** YES 7 x 140W amplifiers

**Multichannel input:** YES 5.1 phono

**Multiroom:** YES main plus two full zones and one audio-only zone

**AV inputs:** YES 6 x S-video & composite; 7 x digital audio (3 x coaxial, 4 x optical)

**HDMI input/output:** YES 5-in, 2-out (v1.3a)

**Video upscaling:** YES to 1080p

**Component:** YES 3-in, 1-out

**Dimensions:** 435(w) x 441(d) x 196(h)mm

**Weight:** 19.6kg

**Features:** Digital ToP-ART amps; 22 DSP modes; music enhancer; Anchor Bay VRS video processing;

Dialogue Lift features; iPod browsing by cover art; Bluetooth dock (optional); Pure Direct

mode; six combination set-up memory; web radio tuner; RS232 port; 2 x 12V triggers







### Need input:

The Z7 is unusual in that it offers HDMI outs from two connections without the need for manual switching

*Judgement Day* explode out of the speakers with pace and power aplenty. The bass effects are massively potent but equally tight and agile. Gun shots are not just huge great visceral booms but each one is crafted with a complete mechanical symphony of moving metal parts, clattering ammunition and a reverberating thump in your chest. Basically, it feels like you have been shot; the Z7 has ample reserves of power to make things seem like the real deal live event and, given decent speakers, packs a dynamic range that makes most local cinema audio systems sound compressed.

Helped in no small way by *T2*'s awesome DTS-HD MA 6.1 soundtrack, the Z7 turns watching this action-fest into a whole-body experience. It wraps you up in the story with its immersive presence. The soundstage is rendered as a tangible vista, with superb steering around the room, and even tricky outdoor scenes have great space and perfect ambience. From the top to the bottom of the frequency range the Z7 feels immensely sure-footed and in control. The result is a very solid, very tactile sound that left me ooohing and aaahing at the movie's sonic details.

### Subtle sin

Yet the Z7 is not just a beef-cake, it can do subtle as well. With intense material, like the recently-released Blu-ray of *Sin City*, it proved to be light and agile with superb projection of dialogue. The moody opening scene on the roof top is delivered with all the dark presence of *Basin City* below. The subtle car noises, gentle breeze and distant sounds of people, guns and sirens are placed to perfection – painting the scene

as accurately as the blistering high-def picture.

This receiver's overall stance – natural and detailed sound with a huge low-frequency punch – is right out of the DSP-Z11's list of appealing attributes. **Where the Z7 gives way to its bigger brother is at the extreme ends of the audio picture.** The Z11's ability to deliver fine detail, particularly very quiet effects, is absolutely extraordinary whereas the Z7 is simply very good. And in terms of creating the biggest, most impressive, surround sound experience possible in the home, the Z11 is the daddy. The Z7 gets damn close, though.

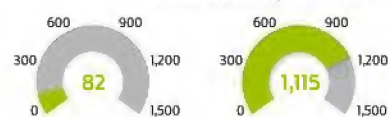
Inclusion of 'net radio functionality arguably makes the Z7 a receiver rather than an amplifier. The radio is slick to use, although I have seen systems using gateway servers with far more content. Web radio sound is never going to be hi-fi (at present at least) but Yamaha's music enhancer goes a long way to jazzing up the worse offending low bitrate stations.

The Z7's picture tweaking options will be a boon to those with mainstream (rather than high-end) Blu-ray decks and the Anchor bay DVD scaler is a distinct improvement on the chipsets found in budget BD-spinners, TVs and projectors. But do I really miss those extra four channels and esoteric audiophile components? Well, yes I do – but I suspect most people (and their partners) won't find the difference justifies the extra £3K.

At £2,000 the Z7 really is a top-notch performer, packed with features, easy-to-use and offering excellent sound. Okay, it's not exactly a Z11 on the cheap, but offers much of its bigger brother's magic at a fraction of the price. Bargain ●

## → Tech Labs

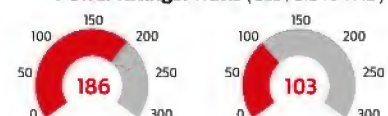
### Power consumption: Watts



**Idling:** Not an excessive drain on the National Grid, but for long idle periods you'll want to switch it off completely

**Powered:** In five-channel mode, power usage soars to 1,115W. Meaty but not excessive for the muscle delivered

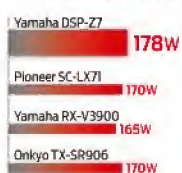
### Power ratings: Watts (8Ω, 0.5% THD)



**2-channel 8Ω:** In two-channel mode this amp delivers considerably more than the claimed 140W per channel. It's a beast at 186W

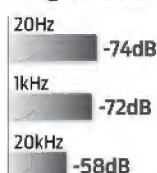
**5-channel 8Ω:** At 103W per channel in five-channel mode, the amp's performance still stands up pretty well, although there's a juice shortfall

### Untainted: Watts



**Fidelity firewall:** Our measure of output power before low levels of distortion (0.05% THD) kick-in. 178W is a formidable figure

### Signal/noise: dB



**S/N tests:** We would rate -80dB to be an excellent S/N figure, so these ratios can be considered very good for low and mid frequencies, fairly good for high frequency



## HCC VERDICT

Yamaha DSP-Z7  
£2,000 Approx

Price check: [www.techradar.com/612358](http://www.techradar.com/612358)

**Highs:** Fabulously large sound with huge bass and plenty of detail; easy to use; great YPAO

**Lows:** Orange display; disconcerting pops when changing sources

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



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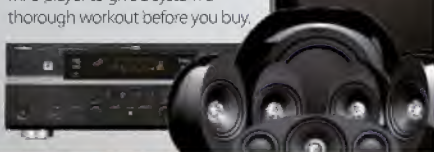


## Home Cinema & Hi-Fi

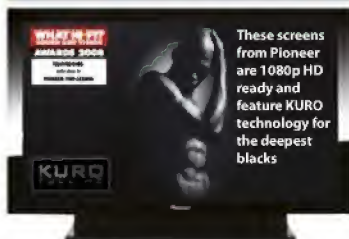
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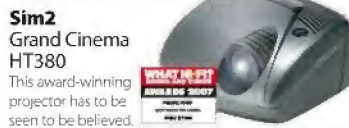
**Samsung**  
New range includes both full 1080p LCD and LED models.



**Panasonic VIERA**  
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### HOME CINEMA SEPARATES

#### Yamaha

Yamaha's new 2009 range includes five new AV receivers, a home cinema soundbar, and two TV stands with built-in surround sound.



#### Onkyo

Onkyo raises the bar once again in the competitive world of home cinema with its **TX-SR607** which features Dolby ProLogic IIz support.



#### Denon

Denon has introduced the 10 series AV receivers. Models include AVR1610, AVR1910 and AVR2310.



#### Sony STR-DA2400ES & BDP-S550

Highly-acclaimed new AV receiver and Blu-ray disc player from Sony. [What Hi-Fi Group Test Winner - March 2009]



### BLU-RAY DISC PLAYERS

#### Panasonic DMP-BD60 & 80

These new players from Panasonic blend comprehensive features with top-drawer picture and sound quality.



#### Pioneer BDP-LX71

View film exactly as the filmmakers intended, in 1080p resolution, at 24 frames per second with the BDP-LX71.



#### Denon DVD-2500BT

For faithful transmission of Full HD video and HD audio signals bringing out the full quality of film.



### HI-FI SEPARATES

#### Cyrus **NEW**

Following the remarkable 'Servo Evolution' CD players, Cyrus has introduced a new range of amplifiers. Featuring circuitry developed for its DAC Xp, the **8XPd** and **PreXPd** include digital inputs - ideal for playing music stored on your computer - while the entry model, **6XP**, is based on the 8XP but without the digital option. These new models also include two-zone multiroom capability.



The award-winning 'Servo Evolution' CD players - **CD6 SE, CD8 SE & CDX 1 SE**



#### Roksan Kandy K2

Roksan replaces its hugely successful Kandy series with the Kandy K2 amplifier and matching CD player.

#### Pro-Ject Genie MKIII **NEW**

Replacing the Genie 2, the MKIII version includes a new motor, more stable motor base and a new tone arm with traditional anti-skate. Supplied with an OM3e Ortofon cartridge fitted, the Genie MKIII is available in Standard Black with White, Piano Black and Red finish options available at extra cost.



#### Marantz 30th Anniversary Ki Pearl

To celebrate 30 years with Marantz, its Brand Ambassador, Ken Ishiwata, launches the Ki Pearl SACD player and integrated amplifier. These products are limited to just 500 units each.



#### Arcam FMJ Series

Combining sleek design, flexible connectivity and a level of reproduction far beyond that of budget separates systems.

### LOUDSPEAKERS



#### Spondor AS and A6 **NEW**

The AS offers exceptional performance in relation to its compact dimensions. New drive units ensure clear and natural mid-range and beautifully open treble. The A6 utilises technology developed whilst developing the ST loudspeaker with its asymmetrically sculptured tweeter faceplate and refined 18cm bass/mid driver.

#### B&W 600 Series

Great performance and value across the range.

#### B&W MT-25 **NEW**

Combines the M1 satellites with a new subwoofer.



#### B&W Panorama

Stylish new Soundbar ideal for screens 40" plus.



#### Monitor Audio

With a choice of sizes and finishes, there's a Monitor Audio speaker to complement any system. Ranges include Bronze BR, Silver RS, Gold Signature, Radius HD and the flagship Platinum.



#### Radius HD

A new decor matching range of ultra-compact sub/sat speakers replacing the highly acclaimed Radius.



#### Dali Lektor **NEW**

Dali complements its range with the Lektor 2. Only slightly larger than the award-winning Lektor 1, this new model represents outstanding value.



#### KEF KHT3005SE

Award-winning 5.1 speaker package available in high gloss black or silver.



#### Q Acoustics 1010i 5.1

Smart styling complements the Q Acoustics' award-winning performance.





## ALL-IN-ONE SYSTEMS

### Denon D-M37DAB

Denon's micro systems are back. This award-winning model, available in silver or black, features a CD player, capable of reading MP3 and WMA discs, a DAB tuner, 30W amplifier and optional SC-M37 speakers.



### Arcam Solo Mini

Award-winning integrated CD, Radio and Amplifier with iPod control via optional rLead/rDock.



### Teac Reference Series 380

This new three component system's strong feature set includes DAB/DAB+ and WiFi Internet Radio, MP3 playback from CD or via a front-mounted USB socket, an optional iPod dock, high-quality circuitry, tone and balance controls and CD Direct function.



### B&W Zeppelin

This award-winning iPod docking station ticks all the boxes: it's beautiful, solid as a rock and sounds amazing!



## MULTI-ROOM AUDIO

### Sonos

This multi-room digital music system lets you play your favourite tunes all over the house – and control them from the palm of your hand. You can even play different songs in different rooms.



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<b>CYRUS</b> DISCMASTER 8.0 DVD PLAYER <b>£399</b> RRP £799	<b>DENON</b> DVD2500BT BLU-RAY TRANSPORT <b>£549</b> RRP £699	<b>DENON</b> DVD3800BD BLU-RAY PLAYER <b>£899</b> RRP £1499	<b>Q ACOUSTICS</b> 1010i A/V SPEAKER PACK <b>£449</b> RRP £549
<b>SONY</b> BDP-S5000ESB BLU-RAY PLAYER <b>£999</b> SRP £1199	<b>KEF</b> KHT2005.3 A/V SPEAKER PACK <b>£679</b> RRP £899	<b>PANASONIC</b> DMR-EX769 HDD/DVD RECORDER <b>£249</b> SRP £299	<b>PANASONIC</b> DMP-BD60 BLU-RAY PLAYER <b>£199</b> SRP £279
<b>PANASONIC</b> TX-L32X10B 32" LCD TV <b>£449</b>	<b>PANASONIC</b> TX-L32S10B 32" LCD TV <b>£539</b>	<b>PANASONIC</b> TX-L37G10B 37" LCD TV <b>£719</b> PRICE INCLUDES TRADE-IN DISCOUNT	<b>PANASONIC</b> TX-P42G10B 42" PLASMA TV <b>£799</b> PRICE INCLUDES TRADE-IN DISCOUNT
<b>PANASONIC</b> TX-P42V10B 42" PLASMA TV <b>£1199</b> CLAIM FREE DMP-BD60 BLU-RAY PLAYER	<b>SAMSUNG</b> UE40B7020 40" LED TV <b>£1199</b>	<b>PIONEER</b> PDP-LX5090 50" PLASMA TV <b>£2099</b>	<b>PIONEER</b> PDP-LX6090 60" PLASMA TV <b>£3199</b>



# Media Centre monster mash

This massive Media Centre PC demands to be taken seriously.

**Chris Jenkins** wonders if old-school convergence is back in favour



A minimalist exterior hides a multitude of functions



Few would dispute the fact that the entertainment system of the future will combine the best attributes of both a TV and PC, but debate continues to rage about the wisdom of entrusting all AV needs to a Windows-based Media Centre PC. Tipping the scales of trust are those models configured specifically to handle your precious media files, and designed to look good in the living-room.

Such is the MediaPC4U system. Based on the SilverStone Crown CW02 case (available in black or silver), this system looks rather like a high-grade amplifier, and so won't look out of place racked with other AV kit. More to the point, it actually is an amplifier, with a built-in 5.1-channel surround sound processor/amplifier card.

The all-aluminium construction and extra-thick reinforced dress plates in the front set off a sophisticated design with a backlit LCD panel and two big control knobs, one for function and one for volume. Front panel sockets are concealed discreetly under a hinged flap.

The case is big enough to accommodate an extended length graphics card, a CPU cooler, and lots of drive options. **MediaPC4U will assemble pretty much any configuration you want** with prices starting at £1,099.

Options include a choice of motherboards, Microsoft Windows Vista Home Premium or Ultimate operating systems, different specifications of AMD processor, a choice of coolers, RAM from 1Gb to 4Gb, one to five hard drives of up to 1Tb each, optical drives including DVD-RW, BD and BD-R, a choice of TV tuner cards including dual digital models and the optional SiliconDust HD HomeRun dual DVB-T Network Tuner, a choice of Asus and Sapphire graphics cards with up to 1024MB onboard RAM, a choice of power supplies and fans, and a selection of card readers. Phew!

All the motherboard options will support Blu-ray and HD-DVD playback, and the system comes with a Windows Vista compatible 56-button infrared remote control handset. Wireless network cards, wireless keyboards, soundproofing kits and cables are all available as optional extras.

### Bit of a Diva

The system we auditioned comprises the SilverStone Crown CW02 Media Centre PC Case, MSI Media Live DIVA

5.1 100W (claimed) amplifier CPU, AMD 4850e dual core 2.5GHz processor, Western Digital Green Power 500GB hard drive, LG GGC-H20L Blu-ray optical drive, Windows Vista Home Premium 32-bit operating system, and Arcsoft Total Media Theatre 2 software for native Media Centre Blu-ray playback. We also had a SiliconDust HDHomeRun networkable dual tuner supplied by Nectar Electronics, bringing the total cost to £1,394.73.

Naturally, Windows Vista includes Windows Media Center, your control system for playback of digital video and audio files and, of course, you get all the other functionality of a modern PC.

### Easy hooker

The HDMI connection on the graphics card makes it easy to connect to a TV. A rather more fiddly process is the speaker connection for the amplifier card. You have to screw the bare ends of the speaker cable into an edge connector, and plug this into the amplifier board slot, a little awkward, particularly if you have thick speaker cables.

The key to the system is the combination of a motherboard and five-channel amplifier that is otherwise known as the Media Live DIVA 5.1. It features a socket to support a range of AMD and Sempron processors, slots for up to 8Gb of memory, and slots for PCI graphics cards. The 5.1 channel audio amplifier circuitry features SPDIF digital and front audio pin outputs, and the video outputs include component video, VGA, HDMI and phono out.

PC connections include four SATA II sockets for hard drives, four USB 2.0 rear ports, four USB 2.0 pinheaders, plus IEEE1394 (Firewire), serial port, infrared, CD-in Connector, and LAN connectors. It supports the RAID format should you want to use a massive external drive system.

Multi-channel sound processing is handled by the Intersil DAE-3 chip, which, interestingly, is THX Ultra2 >

### AV/CV

**Product:** Windows-based multi-media PC with built-in 5.1 channel amplifier

**Position:** Mid-range system from a built-in spec selection

**Peers:** Antec Fusion Remote, Eclipse DM5 Media Live







**PC world:** You can connect up an extra long graphics card in the ample casing

certified. This combines the functions of home cinema audio with those of a traditional video receiver, CD, DVD, DVR, cable box, HD TV tuner, and PC Internet connectivity into a single unit. A five-channel audio amplifier places a high demand on the typical PC power supply, causing voltages to fall and the system processor to reset, but the DAE-3 has a small thermal footprint and real-time power monitoring to prevent this.

In use, this multimedia monster is rather sprightly. The AMD Dual Core processor allows multiple programs to be run without stalling or stuttering. This becomes particularly important when you want to watch a TV picture while it is also running other software. The ATI Hybrid Graphics Card combines AMD and ATI Radeon chipsets to take on the load of graphics processing, and to enable multi-display functions.

### Freeview for all

The Arcsoft Total Media Theatre software is intuitive and relatively easy to get to grips with, and I appreciated the provision of a dual Freeview tuner, which allows you to record one channel while watching another; time-shift; pause live TV; and use one-button recording.

You can play Blu-ray, DVD or CD discs in the optical drive, all under the control of the remote handset (an onscreen widget replaces the mouse pointer for Blu-ray discs, which aren't mouse-compatible). The front panel has discreet connections including two USBs, one Firewire, microphone and headphone sockets, plus a card reader compatible with SD, MMC, SM, MS

and CF cards. Playing Blu-ray discs with the system connected to a 37-inch Panasonic TV, I experienced no picture problems. Discs play smoothly, with image clarity comparable to any mid-priced, standalone Blu-ray player. Sonically, the unit worked fine once we had set the appropriate output options. Operating noise is inoffensive, and can be reduced further with an optional silencing kit.

But there are reservations about the fidelity and power of the amplification. Connecting a set of M&K speakers, I found the output to be rather harsh. Separation is fine, though there was a suspicion of distortion at higher volumes. Needless to say, **you won't get the kind of audio quality that you'd expect from a dedicated multi-channel amplifier.**

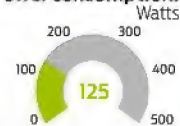
Having a Media Centre PC integrated with amplification is always going to be a compromise, and you lose a lot of the functionality specific to AVRs (tone control, DSP presets, etc – not to mention superior components, DACs and power supply). The remote control response also seemed to be sluggish, but I'll put this down to Windows.

### Media favourite

Despite some caveats, this mega Media PC solution has a certain appeal – perhaps in a secondary system or as an AV centre for card-carrying geeks. With its stunning looks and bold integration, it's one of the more impressive systems available, but it doesn't bring an end to the Media Centre debate ♦

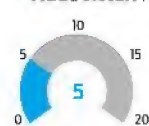
## → Tech Labs

### Power consumption: Watts



**Playing:** With our test disc playing a 5.1-channel clip, the mere 125W consumption suggests its amp module isn't working overtime

### Video Jitter: Ns



**Vision:** Not a bad measurement for video jitter, suggesting that the analogue video output from the motherboard is surprisingly good

## → Specifications

**Case:** SilverStone Crown CW02 Media Centre

**Motherboard:** MSI Media Live Diva w. 5.1 100W Amplifier

**CPU:** AMD 4850e dual core 2.5Ghz processor

**Cooling:** Scythe Mini Ninja Heatpipe CPU Cooler, Noctua NF-S12 800 RPM 120mm Quiet Case fan

**RAM:** Kingston 3GB 800Mhz

**Hard drive:** Western Digital Green Power 500GB

**Optical drive:** LG GGC-H20L Blu-ray

**Network card:** D-Link Xtreme N DWA-556

**PSU:** Enermax Pro 82+ 425W Quiet PSU

**OS:** Windows Vista Home Premium 32-bit

**I/O:** Component video, VGA, HDMI, composite video, 5.1 ch audio, S/PDIF,

4 x USB2.0, IEEE 1394, serial port, Realtek® PCI-E Gigabit LAN

**Dimensions:** 225(h) x 435(w) x 440(d)mm

**Also features:** Arcsoft Total Media Theatre 2 software for native Media Centre Blu-ray playback, SiliconDust HDHomeRun networkable dual tuner from Nectar Electronics



## HCC VERDICT

MediaPC4U

£1,400 Approx

Price check: [www.techradar.com/613277](http://www.techradar.com/613277)

**Highs:** Great looks; flexible specification; convenience

**Lows:** Audio output lacks warmth; in performance terms a compromise

**Performance:** 1 2 3 4 5

**Design:** 1 2 3 4 5

**Features:** 1 2 3 4 5

**Overall:** 1 2 3 4 5



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# Multiregion Blu-ray

**Martin Pipe** picks up a £140 Blu-ray player along with his weekly shop



## → Specifications

Video upscaling: YES up to 1080p  
 Multiregion: NO RB (BD); R2 (DVD)  
 Multichannel phono audio: NO  
 Digital audio: YES optical/coaxial/  
 HDMI  
 Dolby TrueHD/DTS-HD: YES/YES  
 Dolby TrueHD/DTS-HD bitstream: YES/YES  
 Profile 2.0: YES with USB memory  
 Dimensions: 430(w) x 55(h)  
 x 260(d)mm  
 Weight: 2.6kg  
 Features: 1080p/24 and xvYCC  
 modes; MP3/WMA/JPEG and  
 DivX/XviD; BD-R/RE playback

Supermarket chain Aldi, best-known for a wide range of budget buys ranging from ale to yoghurt, is selling a Blu-ray player. And not only is it the first supermarket player, it's also hackable to be multiregion! So should we be getting excited?

On paper at least, the £140 DVD1100UKT has an enticing spec. It supports hi-def audio via HDMI, is equipped with USB for multimedia playback and will deliver 1080p24 video to a compatible display.

Build quality is lightweight and the styling nondescript. Beneath the lid is a SATA-interfaced BD drive, and a main circuit board that contains both the delicate digital and AV electronics, and the power supply. This is hardly ideal; the positioning of electrolytic capacitors near heatsinks also smacks of poor design. But would this affect performance?

## Performance

My test disc of choice was *Transformers*. After what seemed like an eternity – this is not the fastest-loading player in the world – I had pictures, but no sound. An Onkyo TX-NR906 AVR, which sells for the same money as ten Tevions, yielded a 'no signal' display on its front panel. You should instead be told what audio format you're listening to. Going through the player's various output options made absolutely no difference. My Sony Bravia LCD TV yielded two-channel PCM sound when connected directly to the player, and so there presumably wasn't a fault with the hardware.

I then tried Sony's DA-5400ES AVR. Success at last! If I immediately disconnected the Sony and plugged the HDMI cable back into the Onkyo, sound was obtained; clearly, there's some kind of HDMI handshaking issue – and one that needs urgent attention via a firmware update.

In performance terms, picture and sound are difficult to fault. If you're using HDMI, that is. Component pics have minor hue/phase errors that are particularly noticeable with flesh tones. *Transformers* is characterised by a stupendous range of contrast, beautifully-rich colour rendition, solid blacks and impeccably-crisp detail. The only real criticism I could make was that a certain degree of judder could be seen with, for example, horizontal pans.

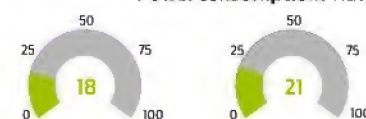
Audio over HDMI proved well within the DVD1100UKT's capabilities, too – no dropouts, no lip-sync errors. And BD-Live? Yes, although the manual makes no reference to the fact that a USB memory device needs to be plugged in for it to function.

However, what is most appealing about this player is that it can be hacked to switch BD and DVD regions with a few simple key presses – here's how you do it: make sure there is no disc loaded and enter 973501 on your remote. The '0' switches to DVD region '0' (all regions). The '1' tells the Tevion to switch to Region A. To go back to watching Region B Blu-rays, enter 973502. Easy huh? This unexpected bonus might make the Tevion worth £140 after all ●

**Eco:** Unusually the on/off button is a proper mains switch, as opposed to one that merely switches the player into and out of standby

## → Tech Labs

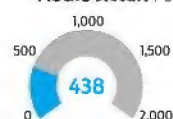
### Power consumption: Watts



**Idling:** Surprisingly high for an unadorned Blu-ray player

**Playing:** Not much of an increase in play mode, so at least it's not too power-hungry

### Audio Jitter: Ps



**Sound:** Very good audio performance, well up with more expensive players

### Loading: Boot/Java

Boot speed & tray eject

19s

Tray in to main BD menu

79s

**Disc loading & Java:** Boot-up is speedy, but loading is wearisomely slow on our test disc



## HCC VERDICT

Tevion DVD1100UKT  
 £140 Approx

Price check: [www.techradar.com/613283](http://www.techradar.com/613283)

**Highs:** Profile 2.0 support; region hackable; good performance  
**Lows:** HDMI audio incompatibility; lacklustre build quality

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5



# Blu-ray on the move

**Mark Craven** warms to a one-of-a-kind product from Panasonic

At first glance this Blu-ray player is about as useful as a waterproof teabag – who'd want to watch HD movies on a dinky non-HD screen? – but really, what Panasonic has done is create a full-spec BD deck that happens to be portable. And for that it should be applauded.

## Highs

- The PHL Reference Chroma Processor Plus (P4HD) technology, Profile 2.0 specification, Viera Cast interactivity and Dolby TrueHD/DTS-HD Master Audio bitstreaming mean this is a player on par with any standalone BD-spinner. Simply hook it up to your HDTV via HDMI and you're away.
- It comes supplied with car headrest attachment gubbins, and a headphone socket, so it's ideal for keeping back-seat passengers amused on long journeys.
- BDs and DVDs watched on the

8.9in, 1,024 x 800 resolution screen are sharp, contrasty and smooth – only the limited viewing angle and overly vivid colours are a disappointment.

## Lows

- The B15's quoted three-hour battery life seems reasonable, although in practice the device gives up after just 2.5 hours.
- The screen is designed to swivel and fold out like a picture frame, which does make this 1.7kg package bulkier than a portable DVD player. This position is practical for desktops, but it's far from ideal for watching on a lap.
- The B15 is a bit tardy, taking around 20 seconds to come to life and a further 40-90 seconds to load a Blu-ray disc.
- The reedy, low-slung speaker bar is best avoided – portable users should go for headphones instead.



## HCC VERDICT

Panasonic DMP-BD15  
£500 Approx

Price check: [www.techradar.com/613299](http://www.techradar.com/613299)

Overall: **1 2 3 4 5**

**Portable:**  
It'll keep the kids amused on the trip to Skegness

LINDY HDMI SCALER/SWITCH → £350 Approx → [www.lindy.co.uk](http://www.lindy.co.uk)

# Honey, I shrunk the scaler...

Do good things come in small packages? **Martin Pipe** thinks so

Designed to act as, or replace the front end of a display, a scaler has several functions – source-selector, analogue-to-digital converter, signal processor/deinterlacer and the actual scaling bit. They're usually big and expensive boxes, but here's an unpretentious mini-alternative.

Lindy's HDMI Scaler/Switch will convert analogue sources to HDMI 1.2. There's also a single HDMI 1080p input, plus audio support. Picture quality is surprisingly good for the price, although more expensive units are better equipped to extract the last ounce of AV source quality.

## Highs

- It's easy to set up and drive from the handset or front-panel controls.
- Can be used to give an analogue PC input to a bigscreen TV that lacks one – a dedicated 3.5mm input is provided for the audio (coaxial digital can be chosen as an alternative).
- Each input benefits from its own settings memory – in addition to contrast/brightness are colour temperature, noise-reduction, position and basic aspect-ratio
- A wide range of output settings are provided including VGA to WUXGA, and 480i/576i to 1080p.

- The audio inputs – analogue stereo and digital – benefit from an optional delay. Audio is inserted into the HDMI output, but an adjacent coaxial output is also available

## Lows

- Not as well featured as some scalers; you don't get modes like PiP, a wide range of aspect-ratio settings, comprehensive control over deinterlacing/gamma correction or useful tweaks like chroma delay.
- The only output is HDMI/DVI, so you can't use this scaler with older displays that have VGA/RGB-HV as their highest-quality option.



## HCC VERDICT

Lindy HDMI Scaler/Switch  
£350 Approx

Price check: [www.techradar.com/613308](http://www.techradar.com/613308)

Overall: **1 2 3 4 5**

## In Brief

**Ghostbusters**  
PlayStation 3,  
£40 Approx

The latest game to carry the *Ghostbusters* licence is the greatest yet. Bill Murray, Dan Akroyd, Harold Ramis and Ernie Hudson reprise their eponymous roles in a first person shooter also written by the original team. It's funny, action packed and a must for fans. Splendid!



**1 2 3 4 5**



# Still searching for the **10 COOLEST MOVIES BEING MADE RIGHT NOW?**

Well, the mystery is solved. In fact, it's elementary...



Find out all in the new issue of Total Film.

By the way, **Sherlock Holmes** is in it. As is **Iron Man 2** and **Tron 2.0** and **Fantastic Mr Fox** and **Alice In Wonderland** and, yes five more.

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# Buffalo soldiers on

**Martin Pipe** finds good and bad points with this networkable media player

With everything from your AVR to your Xbox sporting an Ethernet port, some means of liberating media from your PC and unleashing it onto an AV system is obviously welcome. Step forward networked media-players like this hi-def capable one from Buffalo. Plumb it into your network, hook up your AV equipment, configure your server and select the media you want to play with a handset-driven menu system. It's as easy as that...

## Highs

- The menu system, where you choose music, photos or video from the available servers, is responsive and funkily designed.
- The Buffalo is compatible with uPnP media servers – ie the vast majority. This includes Windows Media Player 11, and the servers built into many consumer NAS boxes.
- H.264 hi-def transport streams



(like those captured from BBC HD, with a networkable PVR) are supported, but only if they're renamed with an .mpg extension.

## Lows

- Video output is HDMI or composite only, and the range of output options is restricted. A lack of 50Hz hi-def (720p/1080i) or NTSC standard-def (480i) modes means some video is spoilt by unwanted motion judder.
- Despite the presence of a continuous play function, the

LinkTheater HD won't automatically play the next file in a folder. D'oh!

- Contrary to claims, there's no support for popular .mkv files. Hi-def DivX/XviD isn't catered for, either.
- No support for online media, such as internet radio.

## Missing link:

Use the Buffalo to play your media files on your AV system

## HCC VERDICT

Buffalo LinkTheater HD  
£100 Approx

Price check: [www.techradar.com/613285](http://www.techradar.com/613285)

Overall: 1 2 3 4 5

LINKSYS NMH410 → £350 Approx → [www.linksysbycisco.com](http://www.linksysbycisco.com)

# Server with a smile

**Steve May** discovers the new poster boy for NAS devices

Servers just got sexy. No really, they have. The Linksys by Cisco NMH410 Media Hub has got to be the most presentable media savvy server yet



made. Beautifully built, it has soft lines, blue lights and is whisper-quiet. While you can squirrel it away in a boot room, I suspect you'll be tempted to put it somewhere prominent, just to show it off.

Priced around £350, it's in many ways the poster boy of the new NAS generation, and typifies the shift from utilitarian tool to consumer desirable.

## Highs

- One obvious bind in running a media server is syncing it up with a PC that takes in the media in the first place. At its worst, this can involve tedious drag and dropping. The Linksys NMH solves this conundrum through a smart Media Importer app, which monitors designated folders and automatically

updates the contents on the Hub when it detects changes.

- A backup program is bundled. NTI Shadow will backup all files in the Documents folder, once an hour on default. A great safety net.

## Lows

- One glaring omission from the product is integrated BitTorrent support. This is a key attraction and not having it is a missed opportunity.
- Remote access is free for the first year, ten dollars thereafter, yet it won't stream DRM-lashed content, and it's size and codec limited. In fact, it didn't work at all with a PSP.

## HCC VERDICT

Linksys by Cisco Media Hub  
£350 Approx

Price check: [www.techradar.com/613297](http://www.techradar.com/613297)

Overall: 1 2 3 4 5

## Icon:

The Linksys is a server with a style

## In Brief

Blade Runners, Deer Hunters, and Blowing the Bloody Doors Off  
Faber and Faber, £19 Approx



Michael Deeley's movie-making memoirs make for fascinating reading. The Oscar-winning producer of *The Deer Hunter* and *The Italian Job* serves up a ready stream of anecdotal gold that's as captivating as it is cringeworthy.

1 2 3 4 5



## THE NEWBIES

Four of our screens are new, and all six come in at less than £800 – who wants to spend megabucks on a screen as small as 32in? The most expensive new model is Panasonic's £800 TX-L32G10, which is the only TV in this group with a built-in Freesat tuner. Next down the value chain is Samsung's LE32B650, which delivers a fearsome feature count, including online functionality and 100Hz, for just £650. JVC's LT-32DR1 is £30 cheaper than the Samsung, and offers JVC's DynaPix HD video processing and powerful sound as its key attractions. The Toshiba 32AV635, meanwhile, delivers the brand's MetaBrain processing system, complete with Resolution+, despite costing just £480.

## THE MARKET LEADERS

Philips' 32PFL9613 is the joint most-expensive TV in this group, at £800, and is also the oldest. But its combination of Ambilight technology, separate subwoofer dome tweeter speaker design, and powerful picture processing have made it a noteworthy model in its class.

LG's 32LH4000, first launched in March, is a market leader for a very different reason: value. Now available for £460, it's the cheapest model here, yet still manages to offer Twin XD Engine processing and some multimedia functionality.

## THE TEST

Our six models were all 'living room' tested in exactly the same ambient lighting conditions and using exactly the same source material, including Blu-ray film sequences, from *Children of Men* and Tim Burton's *Sweeney Todd*, Sky News, and a DVD of *Pirates of the Caribbean: The Curse of the Black Pearl*. And, as usual, each TV was put through our rigorous lab procedures, to put some objective numbers alongside the key subjective results.



## THE CONTENDERS

**NEW JVC LT-32DR1BJ**

£620 Approx

The Full HD 32DR1BJ carries JVC's DynaPix HD processing and is one of the brand's first TVs with a multimedia-friendly USB port

**LG 32LH4000**

£460 Approx

Easy on the eye, the 32LH4000 is also easy on the wallet, despite including Twin XD Engine processing and USB multimedia support

**NEW PANASONIC TX-L32G10**

£800 Approx

This Full HD model's biggest claim to fame is its built-in Freesat tuner, though it also boasts 100Hz and a video and JPEG-capable SD card slot

**PHILIPS 32PFL9613**

£800 Approx

This set's extremely powerful Perfect Pixel HD video processing joins forces with 100Hz, a USB port, and Ambilight Spectra technology

**NEW SAMSUNG LE32B650**

£650 Approx

A typically lovely Samsung design houses 100Hz processing, online functionality, two USB ports, and loads more besides

**NEW TOSHIBA 32AV635**

£480 Approx

Resolution+ processing is provided to boost standard-definition video, plus there's a USB port – despite the TV's extreme affordability

# 32in LCD Supertest

With 32in TV sales undergoing something of a renaissance right now, **John Archer** and the **HCC Tech Labs** dig deep to discover the state of the art



With so many huge screens rolling off the world's many and various flatpanel production lines, it may seem surprising that the 32in market is still going strong. But the demand remains buoyant, thanks to ongoing belt-tightening, and a desire to put screens in most every room in the house – it's just as likely these models will be hooked up to a games console or used for JPEG picture viewing than watching Freeview. So who makes the best sets? We've grouped six of the biggest brands for the ultimate shoot out, and none of our contenders today cost more than £800.

### Light entertainment

If you're a bigscreen snob who looks down their nose at smaller screens, prepare to be surprised. The general standard of picture quality found throughout this group test is really very good. While some of the six screens here are undoubtedly better than others, none can be considered

to be disappointing. Indeed, it's hard to imagine owning any one and not being perfectly satisfied.

However, Team HCC doesn't just want you to be satisfied. We want you to be cock-a-bloody-hoop.

One key issue with relatively small flatscreens is picture brightness, or the lack of it.

All of the other screens look emphatically bright and colourful even when carted out of a dimmed test room environment and dumped unceremoniously into a bright room. But according to our independent Tech Labs tests, the brightest screens are the Panasonic (at 125fL), followed by the LG (at 72fL). The two duller screens in the group are the Philips (at 51fL) and the JVC (a surprisingly lowly 38fL). But, of course, brightness is only a small part of the image story as a whole, and can in fact be detrimental if it comes at the expense of other image factors.

With this in mind, I'd argue that the most all-round dynamic picture

of our group, rather than just the brightest, actually comes from the Samsung LE32B650 (63fL).

When I talk about an image being dynamic, I'm talking about its visual range. In other words, the perceived distance between a screen's darkest black levels and brightest whites, and the vibrancy of its colours. So it's great to find the 32B650 producing some of the most natural black levels I've experienced from an LCD TV right there alongside the pristine whites.

A perfect example of this can be viewed in Tim Burton's *Sweeney Todd*, and the gruesome scenes in the Demon Barber's body-filled basement as Todd dances Mrs Lovett to a fiery death, against a nearly pitch black backdrop.

Philips' 32PFL9613 struggles with this scene, as its black levels aren't quite as profound as those of the Samsung. With the LG 32LH4000, the grisly scene's bright elements look almost frighteningly full-on, but the impact of the image is dented by

## JVC LT-32DR1BJ → £620 Approx → [www.jvc.co.uk](http://www.jvc.co.uk)



### Connections

#### A Digital trio

The JVC's three HDMI count is lower than that of most of its rivals

#### B Stand and deliver

The unusual cross-shaped stand and blue neon power light give the TV a certain retro appeal

#### C Computer hookup

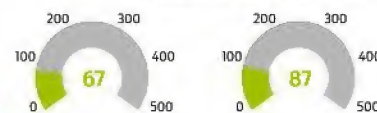
The 32DR1BJ's D-Sub port is a welcome find considering the lack of such jacks on some recent JVC models

### Pork chop:

At more than 10cm deep, the 32DR1BJ has no truck with the TV world's current obsession with slinness

### → Tech Labs

#### Power consumption: Watts



#### White screen:

Considerably below average for this group: in dim lighting Eco Mode seems to save a further 3W

#### Test footage:

With full audio power consumption peaks at 87W, which shows the speakers are doing their job...

#### TV contrast: ratio



**Picture:** Claimed native contrast is 4,000:1, and Dynamic contrast 40,000:1 – in fact we measured Dynamic contrast at a respectable 8,312:1, with luminance an unremarkable 38.9fL

#### Colour temp: Kelvin



**Presets:** JVC offers a poor range of presets with none close to 6,500K, and no individual adjustment of RGB levels.  
Normal: 9,076K  
Cool: 10,565K  
Sport: 5,942K



notable greyness over the darkest parts. The same argument applies, to a less extreme degree, to Panasonic's L32G10 (which seemed to struggle with shadow detail) and JVC's 32DR1, while the Toshiba leaves this dramatic *Sweeney Todd* sequence feeling flat and artificial. When it comes to colour saturation, the talents of these six TVs are particularly apparent during *Todd*'s deliberately over-saturated 'Lovett fantasy' sequences. The Samsung and LG models give this material a rich, almost cartoon-like sensibility entirely in keeping with its tone.

The JVC is only marginally behind when it comes to delivering the full dynamism, but the Toshiba's lack of brightness means it struggles to reproduce the dream sequences with the requisite intensity. The Philips 32PFL9613 model lacks the depth and dynamics to do the sequence justice. The Panasonic's performance rather divided the team; I'd argue that while the L32G10's colours certainly look bright, they lack the tonal

naturalism – especially when it comes to reds – to deliver the same impact as its finest rivals. The Tech Labs team rated its performance rather higher, thanks to its sterling performance on our Test card JPEG challenge.

Regardless of this, the Samsung leads the way. The unusually extreme palette of *Sweeney Todd* presents quite a challenge to LCD TVs, yet this

## PERFORMANCE

**Round-up:** All of our TVs prove capable of likeable pictures under certain conditions. But picture flaws such as low brightness, motion blur and black level depth among the Panasonic, LG, Toshiba, Philips and JVC models leave the excellent Samsung pictures standing out. To its credit though, the Philips does add excellent audio to the equation

JVC LT-32DR1B:	1 2 3 4 5
LG 32LH4000:	1 2 3 4 5
Panasonic TX-L32G10:	1 2 3 4 5
Philips 32PFL9613D:	1 2 3 4 5
Samsung LE32B650:	1 2 3 4 5
Toshiba 32AV635D:	1 2 3 4 5

set was able to handle the tonal shifts with ease. The JVC is no slouch here either, thanks to the processing power of its DynaPix HD engine. Its ability to deliver a super-sharp image is undeniable.

LG's L32LH4000, however, sometimes overcooks hues. I noticed this particularly during the more colour-intensive *Children of Men* Blu-ray – though I did acclimatise to its occasionally ripe skin tones over time.

Toshiba's 32RV635 gets things more or less right during bright scenes, but its issues during dark scenes can also lead to a few iffy tones.

## Pixel pushers

Interestingly, when it comes to standard definition viewing, the rankings shuffle around somewhat. Both broadcast and DVD standard-definition sources look remarkably well-detailed and sharp on the JVC 32DR1, for instance, again thanks to DynaPix HD, and specifically its

LG 32LH4000 → £460 Approx → [www.lge.co.uk](http://www.lge.co.uk)



## Connections

### A Style on a budget

Yes, that really is a hint of blue you can see infused into the TV's bottom edge

### B Music maestro

The 32LH4000's USB jack can play MP3 audio as well as JPEG files

### C 2,073,600

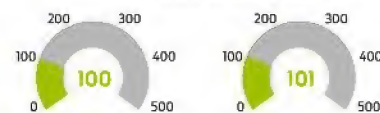
Perhaps the most remarkable thing about the 32LH4000's specification, given its affordable price tag, is the Full HD resolution

## Budget beauty:

Nothing about the 32LH4000's glossy, subtly colourful appearance hints at its lowly price

## → Tech Labs

### Power consumption: Watts



**White screen:** Power consumption is higher than average for this group; but the Power Saving mode can save up to 50W

**Test footage:** Little increase with live footage and full audio, confirming the speakers aren't overly powerful

### TV contrast: ratio



**Picture:** While contrast ratio in Dynamic mode measures an impressive 30,458:1, in Standard mode it drops to 354:1. Luminance is a decent 72.80fl.

### Colour temp: Kelvin



**Presets:** The Warm setting is acceptably accurate; An ISF Expert mode features outstandingly flexible adjustment features. Cool: 10,424K Medium: 9,252K Warm: 6,536K



accomplished Digital Image Scaling Technology element.

As you'd expect, Toshiba's 32AV635 excels with standard-definition. The innovative Resolution+ processing means SD images look more crisp, detailed and noiseless than they've any right to at this price.

The Perfect Pixel HD engine on Philips' 32PFL9613 is also talented at upscaling. In fact, in terms of raw sharpness, I'd go so far as to say that it made my *Pirates of the Caribbean* DVD look almost hi-def. But there's also a gritty look to the Philips' upscaled images when showing low-quality source material.

Conversely, the other standout performer so far – the Samsung LE32B650 – does a fair-to-middling standard-definition job. The black level, brightness and colour strengths noted with its HD playback are still there, but SD images aren't particularly sharp and show some signs of noise.

Panasonic's 32in screen is

outstanding with standard definition TV and DVD. I wouldn't claim that it makes SD look like HD, but it does present them with an effortless – and deeply likeable – naturalism. It's a trait that extends to its presentation of high definition.

There is, of course, a caveat here, in that a screen size of 32 inches is arguably too small to really make all that it can of the extra resolution and picture detail inherent in a high definition source. But they still have a wow factor.

The JVC model, for example, is quite capable of making high definition images looking crystal clear and exceptionally detailed – so long as they don't contain much motion. Without a 100Hz mode to activate, this screen has issues with fast-moving material, and detail drop away.

The Toshiba and LG models struggle a little with this, too, though seldom enough to stop their HD pictures from looking sharper than those of most sub-£500 TVs.

Both the Samsung LE32B650 and Philips 32PFL9613 screens can be considered sharp performers are – provided you've got their 100Hz and HD Natural Motion modes respectively turned on.

The Philips model is particularly remarkable in the way that it makes motion look totally fluid and sharp. However, the heavy-duty HD Natural Motion circuitry that makes such fluidity possible can also generate side effects like shimmering halos and occasional flickers over fast-moving objects, meaning that I eventually preferred to leave the feature off.

The 32PFL9613 is still a good enough handler of motion even without HD Natural Motion beavering away, but ultimately I felt that the Samsung's more relaxed and flexible approach to its motion processing gave it a slight edge – provided, at least, that you set the 100Hz engine to its Clear (low) mode. If you venture any higher than that it can start to look artificial.

## PANASONIC TX-L32G10 → £800 Approx → [www.panasonic.co.uk](http://www.panasonic.co.uk)

### → Tech Labs



### Connections

#### A Card sharp

Since SD is Panasonic's own format, it's no great shock to find the L32G10 sporting an SD slot rather than the more common USB port

#### B HD on tap

Naturally, Panasonic has equipped the L32G10 with a Full HD resolution to suit its BBC and ITV HD content

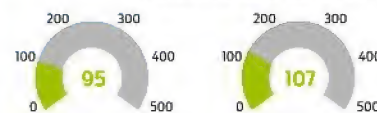
#### C Net TV

The Ethernet port could potentially handle other services, as well as the promised BBC iPlayer

### Satellite shenanigans:

Panasonic's exclusive Freesat tuner 'window' has expired, but only LG has so far launched rival Freesat TVs

### Power consumption: Watts



**White screen:** Power consumption is rather above average for this group; Eco mode cuts consumption by about 23W in dim lighting

**Test footage:** Clip test peaks at around 107W, indicating that the speakers are using relatively low amounts of power

### TV contrast: ratio



**Picture:** In Dynamic mode, the measured contrast ratio of 5,431:1 is impressive, though nowhere near the claimed figure. Luminance is high at 125.9fl

### Colour temp: Kelvin



**Presets:** A spread of presets includes Warm which gives such an accurate figure that the lack of individual RGB adjustment is irrelevant. Cool: 12,588K Normal: 8,491K Warm: 6,526K



In addition to feeding the screens both SD and HD source material, we also subjected them to the HCC Test Card, a still image torture test designed to separate the men from the boys.

The image contains difficult hues to resolve, such as red, orange and gold, a greyscale ending in 100 per cent black, scores of fine detail, from the thread in white linen, to the leaves of an old book. Not only does this test stretch the panel, but it reveals which screen is the best for those who now use their TV to view their digital camera images.

Here, the standout performer was definitely the Panasonic TX-L32G10. It delivered reds, a convincing gold, and a stunning level of fine detail, both in terms of texture and shadows. Running close with it was the JVC, which while a tad less dynamic, managed to offer similar levels of ultra-fine detail. The Samsung ranked third, closely followed by the Toshiba and LG models. However, the Philips was

rated last by our Tech Labs, due to its limited dynamics.

One final key picture performance factor to consider with small LCD TVs is the viewing angle. And in this department the Panasonic model also comes out comfortably top of the heap, thanks to its use of an IPS Alpha screen.

All of the other TVs lose contrast and colour to some extent if you're forced to watch them from the side, though the problem is at its worst with the two budget entrants – especially the Toshiba.

## Sound matters

Taking the sometimes mixed picture evidence into consideration, can I pick out any clear picture starlets? Actually, yes. In fact, I can say confidently that the two strongest picture performers of the six are the Panasonic TX-L32G10 and Samsung LE32B650.

One area where flatscreens usually trip up is in sound production. I rated the Philips sonically superior to

the rest. The use of two separate subwoofers and dome tweeters means it produces easily one of the best soundstages you're likely to hear on a small flatscreen TV, with plenty of power, loads of treble clarity, good dynamics, and even a healthy dollop of mid-bass.

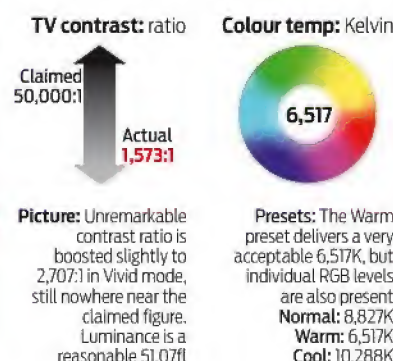
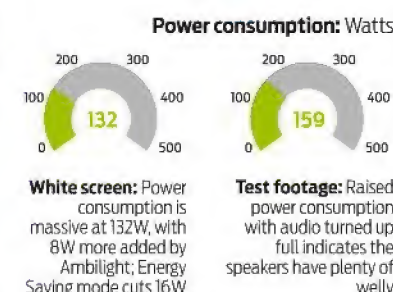
The Samsung, by comparison, is feeble. It can't go loud without sounding thick and soupy, its soundstage doesn't expand convincingly – especially in the bass department – during *Children of Men*'s full-on action scenes or the most heavy-duty orchestral mixes of *Sweeney Todd*.

The Toshiba and LG models struggle to open up and sound convincing with anything remotely resembling an action sequence.

Panasonic's screen sounds slightly better, delivering loud scenes with reasonable punch, but really the only contender in this group test that gets close to matching the Philips' for audio power is JVC's 32DR1BJ. It's a damn shame, then, that this raw

PHILIPS 32PFL9613 → £800 Approx → [www.philips.co.uk](http://www.philips.co.uk)

## → Tech Labs



## Connections

### A Sound technique

The striking shroud around the TV's outer edge deflects sound forward from rear-mounted speakers

### B Stream a little

The Ethernet port can stream in a wide variety of file formats from a networked PC

### C Double bass

The 32PFL9613D's speaker configuration unusually features two integrated subwoofers running alongside dome tweeters

## Pixel perfect?:

The Perfect Pixel HD engine driving the 32PFL9613D is a more powerful refinement of Philips' old Pixel Plus system



power is joined by precisely zero common sense, as a lack of understanding of the speakers' limitations leads to them frequently becoming overloaded to the point of obvious distortion.

## Design

Considering the disparity in prices between our six TVs today, it's surprising how many of them look seriously delectable.

The only model that doesn't elicit any emotional response is the Panasonic L32G10. Compared with the others, it just looks like a plasticky black rectangle. But then that's been the case with Panasonic TVs for some time now – hopefully the design flair of its Z1 flagship plasma (reviewed on p48) will filter down to the brand's LCD range soon.

The JVC model lacks charm, a little because of its excessive chunkiness, despite the retro styling of the fascia.

The biggest design surprise is the LG 32LH4000. For this completely

belies its strikingly cheap price by looking the proverbial million dollars won in its glossy, robust frame and intriguing blue underside.

Toshiba's screen can't quite match the LG looks wise, but again it is to be congratulated for looking much more expensive than it actually is – especially thanks to the slenderness of its bezel and its Sony-aping illuminated logo.

My two design stars, though, are

## DESIGN

**Round-up:** As usual, with beautiful aesthetics, the Korean brands of LG and Samsung lord it over their Japanese and European rivals.

There's just something more appealing about their fascias. The Philips screen does suffer from a larger footprint than most, but that's to house the included Ambilight panels.

JVC LT-32DR1B: 1 2 3 4 5

LG 32LH4000: 1 2 3 4 5

Panasonic TX-L32G10: 1 2 3 4 5

Philips 32PFL9613D: 1 2 3 4 5

Samsung LE32B650: 1 2 3 4 5

Toshiba 32AV635D: 1 2 3 4 5

the Philips 32PFL9613 and Samsung LE32B650. Both combine individuality and flair with impressive build quality to deliver looks that will have your jealous friends and neighbours drooling.

## Features

When it comes to features, all six TVs have plenty to say for themselves in this department – even the affordably cheap LG and Toshiba models. For instance, with the LG, I wouldn't have thought it possible to get a Full HD resolution, three HDMI inputs, XD Engine processing and USB support for significantly under £500, but that's one of the joys of a competitive market.

As for the Toshiba, while its resolution is a more limited HD Ready 1366 x 768, it does still deliver the brand's terrific Resolution+ processing for boosting standard-definition. And it's got a USB port and four HDMI inputs.

Given how much these budget models have to offer, it's

## SAMSUNG LE32B650 → £650 Approx → [www.samsung.co.uk](http://www.samsung.co.uk)

## → Tech Labs



## Connections

### A Twin inputs

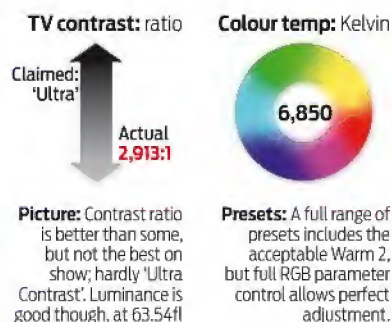
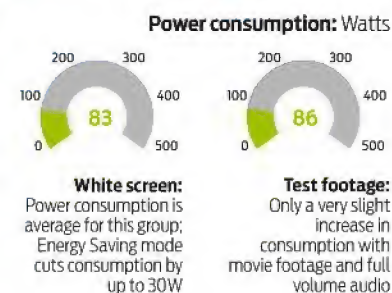
The 32B650's two USBs allow you to connect USB hard drives and wireless dongles as well as playback multimedia files

### B Clear vision

The TV uses Samsung's Ultra Clear Panel II technology, where a polarising filter reduces screen reflections by 30 per cent

### C Easy access up

Of the four HDMI inputs, three are on the rear, and one is on its side



## Natural beauty:

Samsung has introduced a new 'Natural' picture mode for the 32B650 that uses an adaptive contrast enhancement circuit



disappointing that the more expensive JVC 32DR1BJ doesn't offer anything extra. Sure, its three HDMI and USB port will satisfy many users, and its DynaPix HD processing has some excellent elements, but adding 100Hz and a fourth HDMI would definitely have helped it to justify its cost.

That's especially true when you consider that this is exactly what Samsung's only marginally more expensive 32B650 does. In fact, as well as the fourth HDMI and 100Hz frame rate, the 32B650 also offers an impressive set of online features, PC file streaming, a built-in library of multimedia content, and some really thoughtful picture fine-tuning. All of which makes the LE32B650's price look amazing value.

The only TV that gets close to the Samsung on a feature count is Philips' 32PFL9613. You only have to scan through this TV's seemingly endless onscreen menus to appreciate just how much is going on there 'under the bonnet'. And

impressively, pretty much every element of the TV's video processing and picture elements can be manually fine-tuned.

Of course, the downside to the Philips' huge flexibility is that it makes the TV unusually complicated to use. Especially as I'd recommend that you regularly revisit some picture features depending on the type of source you're watching.

Compared with the Philips and Samsung TVs, Panasonic's L32G10 initially looks a little feature-light, lacking the fine-tuning options and general internet/multimedia features that are provided by the Samsung and Philips models.

However, it does have 100Hz, Panasonic's IFC motion-smoothing processing, and future access to BBC iPlayer functionality – plus, of course, its unique selling point, the Freesat tuner. This is a potentially big deal for HD fans who can't afford a Sky HD system. If Freesat's your bag, then I guess that automatically raises it to the top of the pile.

## FEATURES

**Round-up:** The Toshiba, LG and JVC models are the least well-specified TVs in the group test. Though in the LG and Toshiba's case, they still offer more than we'd expect for their money. The Panasonic has its unique Freesat tuner, but for sheer flexibility and showmanship, it's the Philips and Samsung models that rule the roost, with the Sammy just shading it with its 'net widgets

JVC LT-32DR1BJ: 1 2 3 4 5

LG 32LH4000: 1 2 3 4 5

Panasonic TX-L32G10: 1 2 3 4 5

Philips 32PFL9613D: 1 2 3 4 5

Samsung LE32B650: 1 2 3 4 5

Toshiba 32AV635D: 1 2 3 4 5

TOSHIBA 32AV635 → £480 Approx → [www.toshiba.co.uk](http://www.toshiba.co.uk)

## → Tech Labs



## Connections

### A Pixel envy

The screen is only HD Ready – which arguably sits comfortably with its apparent focus on standard-definition sources

### B Get connected

It's impressive to find four HDMI on a TV at this reasonable price point

### C Anti-glare

Like the Samsung, Toshiba's screen contains a polarising sheet that massively reduces onscreen ambient reflections

## Cell division:

Toshiba's Resolution+ system adds detail to standard-definition TV sources

## Power consumption: Watts



**White screen:** Power consumption is average for this group, and just about what you would expect from a 32in LCD

**Test footage:** No notable increase when sound is full on. In a bright room, the Auto Brightness Sensor will save around 20W

## TV contrast: ratio



**Picture:** Contrast ratio is decent at 1,732:1 in Dynamic mode, though nothing like the claims; in Standard mode, it's 780:1. Luminance at 64.45ft is relatively high

## Colour temp: Kelvin



**Presets:** Toshiba's 10 numbered presets gives a wide range of results, with '3' close to D65. Manual adjustment gives perfect results.  
1: 5,785K  
3: 6,589K  
7: 9,327K  
10: 13,110K



# The final standings

When looked at individually, each of these 32inchers has a lot to offer and, in many cases, a unique feature that could determine a buying decision on its own. However, when examined side-by-side it is easier to separate them in picture and design terms.

Sadly, therefore, sixth place goes to the JVC 32DR1BJ. This seems harsh to some extent, since it's a capable SD performer, and can occasionally deliver very good HD images, too. But they lose resolution with motion, it doesn't have enough features to justify its price, and its audio performance is, well, bonkers.

Two TVs tie for fourth place, the

Toshiba 32AV635 and the Philips 32PFL9613. The Tosh suffers chiefly because its pictures aren't very bright. It also can't be watched from much of an angle. However, the superb impact of the 32AV635's Resolution+ system on standard definition could make it an attractive proposition to some.

At only 51fl (tested), the Philips also suffers from a brightness issue. In addition, its black levels are less profound than on, say, the Samsung set, resulting in a lack of true dynamism. Its Perfect Pixel HD engine also splits the team – it's like Marmite, you either love it or loath it. It does have Ambilight, but that's not

quite enough in this instance.

The runners-up are LG's 32LH4000 and the Panasonic TX-L32G10. Both offer an abundance of features and great connectivity. And while the Panny has a Freesat TV tuner, the LG holds its own with excellent design and a hugely impressive price point. They both, though, fall flat on black levels.

Which is why the gold medal goes to Samsung, and its LE32B650. Its black levels are great for a non-LED backlit panel. They give pictures punch and an almost three-dimensional feel. Plus, it's got internet functionality and, at £650, is a bit of a bargain ●



## HCC VERDICT

Samsung LE32B650  
£650 Approx

Price check: [www.techradar.com/613346](http://www.techradar.com/613346)

Highs: Huge feature count; excellent

HD images; gorgeous design

Lows: SD performance is average; sound doesn't live up to pictures

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

HD Ready: yes including 1080p/24

Progressive scan: yes NTSC and PAL formats both work

Digital TV tuner: yes plus subscription CI slot

Composite video: yes one input

S-Video: yes one four-pin

Scart: yes two (one RGB)

Component video: yes one input

HDMI: yes four v1.3 HDMI

PC input: yes one VGA input

Headphone: yes one output

Sound: Nicam stereo

Resolution: 1920 x 1080

Brightness (claimed): 500cd/m2

Contrast ratio (claimed): N/A

Dimensions (on stand): 802.9(w) x

601(h) x 239(d)mm

Weight: 13.3kg

Other features: DNLe processing;

Content Library on Flash memory; access (wirelessly optional) to online Media 2.0 service; PC file streaming



## HCC VERDICT

LG 32LH4000  
£460 Approx

Price check: [www.techradar.com/613314](http://www.techradar.com/613314)

Highs: Exceptional value; good

design, connectivity and pictures

Lows: Black levels; restricted viewing angle; audio is average

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

HD Ready: yes including 1080p/24

Progressive scan: yes NTSC and PAL formats both work

Digital TV tuner: yes plus subscription CI slot

Composite video: yes one input

S-Video: no via Scart only

Scart: yes two (RGB)

Component video: yes one input

HDMI: yes three v1.3 HDMI

PC input: yes one VGA input

Headphone: yes one output

Sound: Nicam stereo

Resolution: 1920 x 1080

Brightness (claimed): 500cd/m2

Contrast ratio (claimed): 80,000:1

(dynamic)

Dimensions (on stand): 804.4(w) x

586.3(h) x 223.8(d)mm

Weight: 12.7kg

Other features: Twin XD Engine processing; USB for MP3 and JPEG playback; Edge enhancement processing; Eye Care setting; picture Wizard setup aid



## HCC VERDICT

Panasonic TX-L32G10  
£800 Approx

Price check: [www.techradar.com/613316](http://www.techradar.com/613316)

Highs: Built-in Freesat tuner; easy to

use; good standard-def scaling

Lows: Black levels average; HD images not particularly sharp

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

HD Ready: yes including 1080p/24

Progressive scan: yes NTSC and PAL formats both work

Digital TV tuner: yes plus Freesat and subscription CI slot

Composite video: yes one input

S-Video: yes one 4-pin

Scart: yes two (both RGB)

Component video: yes one input

HDMI: yes four v1.3 HDMI

PC input: yes one VGA input

Headphone: yes one output

Sound: Nicam stereo

Resolution: 1920 x 1080

Brightness (claimed): N/A

Contrast ratio (claimed): 50,000:1

(dynamic)

Dimensions (on stand): 777(w) x 541(h)

x 217(d)mm

Weight: 13.5kg

Other features: 100Hz; Intelligent Frame Creation; Freesat/Freeview/analogue tuners with separate EPGs for the digital services; SD card slot with JPEG/AVCHD movie support





When tested side-by-side with HCC's custom Test Card, it was easier to determine a winner amongst the TVs

4TH



## HCC VERDICT

Toshiba 32AV635  
£480 Approx

Price check: [www.techradar.com/613348](http://www.techradar.com/613348)

**Highs:** Terrific value; Resolution+ works superbly on standard def  
**Lows:** Picture not very bright; limited viewing angle; HD not the sharpest

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

**HD Ready:** yes including 1080p/24

**Progressive scan:** yes NTSC and PAL formats both work

**Digital TV tuner:** yes plus subscription CI slot

**Composite video:** yes one input

**S-Video:** yes one four-pin

**Scart:** yes two (one RGB)

**Component video:** yes one input

**HDMI:** yes four v1.3 HDMI

**PC input:** yes one VGA input

**Headphone:** yes one output

**Sound:** Nicam stereo

**Resolution:** 1366 x 768

**Brightness:** 500cd/m2; **Contrast ratio:** 18000:1

**Dimensions (off stand):** 786(w) x

525(h) x 83(d)mm

**Weight:** 11kg

**Other features:** Resolution+ processing; Active Vision II processing; USB with JPEG playback; illuminated logo; can call up graphical representations of processing activity; colour management system

4TH



## HCC VERDICT

Philips 32PFL9613  
£800 Approx

Price check: [www.techradar.com/613320](http://www.techradar.com/613320)

**Highs:** Nice HD and SD images; tasty audio and features  
**Lows:** Not very bright; motion processing can generate artefacts

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

**HD Ready:** yes including 1080p/24

**Progressive scan:** yes NTSC and PAL formats both work

**Digital TV tuner:** yes plus subscription CI slot

**Composite video:** yes one input

**S-Video:** yes via Scart only

**Scart:** yes two (both RGB)

**Component video:** yes one input

**HDMI:** yes four v1.3 HDMI

**PC input:** yes one VGA input

**Headphone:** yes one output

**Sound:** Nicam stereo

**Resolution:** 1920 x 1080

**Brightness (claimed):** 500cd/m2

**Contrast ratio (claimed):** 55,000:1

(dynamic)

**Dimensions (off stand):** 828(w) x

543(h) x 109(d)mm

**Weight:** 16.3kg

**Other features:** Perfect Pixel HD, and 100Hz processing; HD Natural Motion; PC file-streaming; USB with playback of music; photo and movie files picture setup assistant

6TH



## HCC VERDICT

JVC LT-32DR1BJ  
£620 Approx

Price check: [www.techradar.com/613312](http://www.techradar.com/613312)

**Highs:** Mostly good HD pictures, sharp standard def images  
**Lows:** Motion blur; all brawn no brain audio; average and chunky design

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5

### → Specifications

**HD Ready:** yes including 1080p/24

**Progressive scan:** yes NTSC and PAL formats both work

**Digital TV tuner:** yes plus subscription CI slot

**Composite video:** yes one input

**S-Video:** no via Scart only

**Scart:** yes two (one RGB)

**Component video:** yes one input

**HDMI:** yes three v1.3 HDMI

**PC input:** yes one VGA input

**Headphone:** yes one output

**Sound:** Nicam stereo

**Resolution:** 1920 x 1080

**Brightness (claimed):** 500cd/m2;

**Contrast ratio (claimed):** 40,000:1

(dynamic)

**Dimensions (on stand):** 791(w) x 570(h)

x 279(d)mm

**Weight:** 13.2kg

**Other features:** DynaPix HD video processing; 12bit colour processing; Super DigiPure processing; USB slot for JPEG playback



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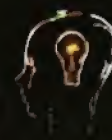


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# PLAYBACK

→ **Software highlights** **GRAN TORINO** Clint has issues with the youth of today  
**THE INTERNATIONAL** Clive Owen reacts badly to excessive bank charges  
**PUSH** Superhero tale comes to shove **THE ITALIAN JOB** Still looking good at 40  
**BRONSON** Britain's self-styled hardest man gets the celluloid treatment **AND MUCH MORE!**

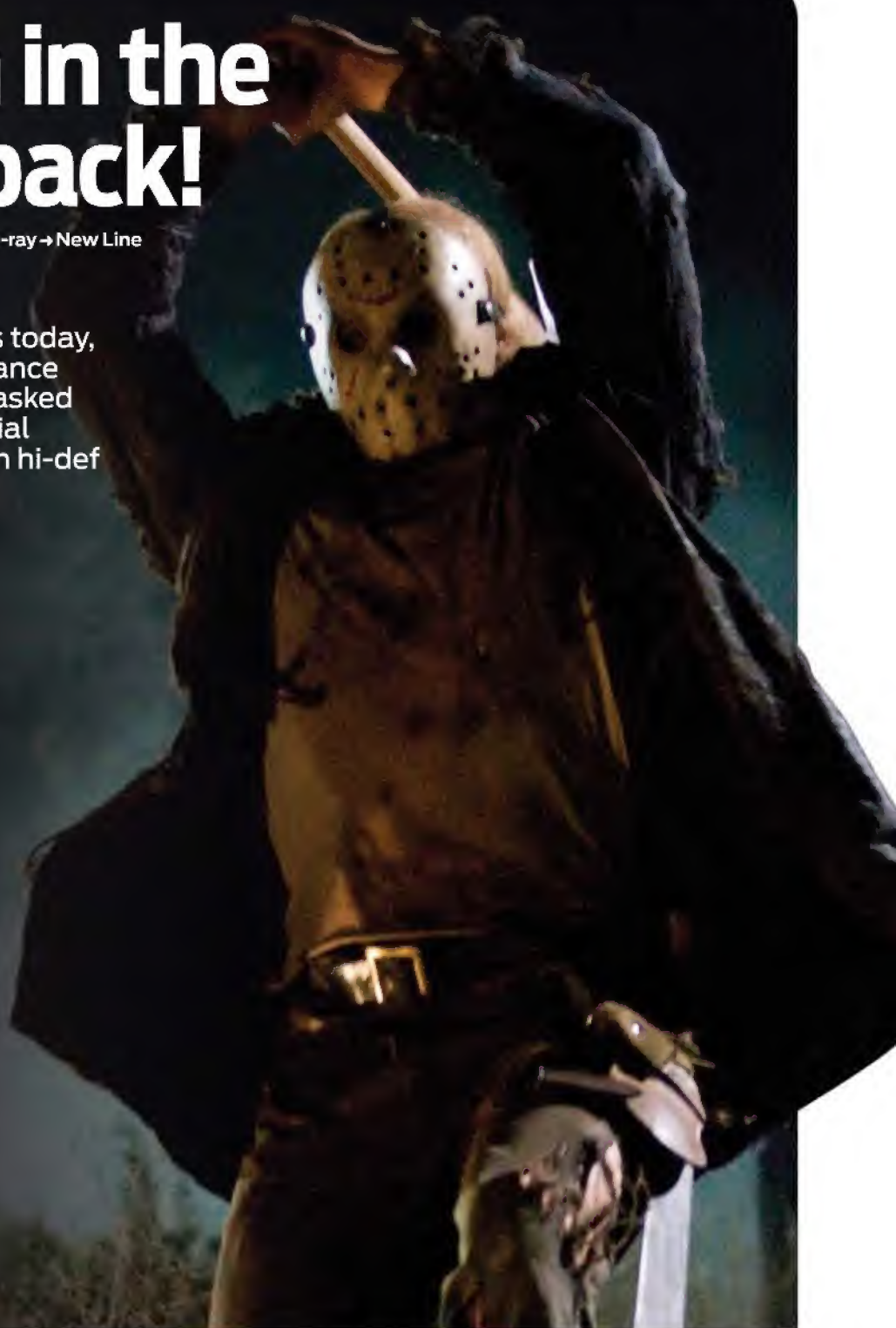
## The man in the mask is back!

Friday the 13th: Killer Cut → All-Region Blu-ray → New Line

If you go down to the woods today, there's still a reasonable chance of being eviscerated by a masked psychopath. Jason's perennial growing pains are detailed in hi-def on page 103

### HCC Ratings key

Jason Voorhees	1 2 3 4 5
Jason Lee	1 2 3 4 5
Jason King	1 2 3 4 5
Jay Z	1 2 3 4 5
J Lo	1 2 3 4 5







There's more to neighbourhood watch than writing down number plates

## Grumpy old man

When youth go bad, Clint gets busy. And not by running a YTS scheme

**Gran Torino** provides the same kind of swansong for Clint Eastwood's ultra-macho '70s-era Republican icons (such as 'Dirty' Harry Callahan) that *Unforgiven* did for his Man with No Name. Here he plays Korean War veteran Walt Kowalski, a bitter, recently-widowed bigot who despairs at the moral and societal changes around him, especially the influx of 'Gooks' and 'Slants' into his Detroit neighbourhood. An unlikely friendship with the children of his neighbours, the Hmongs, softens him, before a chilling act of violence puts him on a course for vengeance and redemption. It may sound trite, but in fact *Gran Torino* is a wonderfully affecting character-study that deserves its plaudits.

**Rik Henderson:** Eastwood the director always seems to favour a subdued, naturalistic filming style that suits the themes of his films perfectly, even if it doesn't always pack much of a wow factor. This Blu-ray release sports a VC-1 2.40:1 encode that captures this perfectly. Colours are spot-on,

blacks are deep, detailing is excellent, and there's an impressive depth to the image. Not necessarily breathtaking, but as good as this film could ever hope for.

**Steve May on audio:** Understated yet sophisticated, *Gran Torino* won't be the first disc you spring for to demo your AV system, but its 5.1 Dolby TrueHD mix is technically peerless. Brilliantly effective Foley is used to immerse you in Walt Kowalski's antagonistic world, while the full fidelity of the codec is lavished on Clint's trademark growl. The overall balance is very much weighted to the L/C/R, and unlike most other box office hits of the season, the score eschews bombast for simple themes. But it's all the more memorable for it.

**Anton van Beek on extras:** Brought over from the DVD are two short featurettes devoted to cars – *Manning the Wheel* (9mins/1080i) and *Gran Torino: More than a Car* (4mins/1080i), neither of which help explain the film or its production. Much better is the Blu-ray exclusive *The Eastwood Way* (19mins/1080i), a more substantial piece looking at the making of the film and what drew Eastwood to it. The Blu-ray also offers a downloadable Digital Copy and a BD-Live link



### HCC VERDICT

Gran Torino  
Warner Home Video → All-Region Blu-ray → £28 Approx  
**We say:** Even the slim extras can't stop us from recommending this affecting modern classic

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5



## Shallow Grave: Special Edition

Walt Disney → Region B Blu-ray  
£23 Approx



Considering its status as the directorial debut of Danny Boyle, this tale of three bourgeois

flatmates who get involved with a corpse and a suitcase full of money, leading to madness, paranoia and murder, has always been poorly served on DVD. But this Blu-ray gets it right with a detailed and natural looking AVC 1.78:1 encode that is miles ahead of any previous release, and a perfectly suitable LPCM stereo mix. Topping it off are a director's commentary, interviews with Boyle and McGregor and a 30min *Making of...* documentary. **AvB**

1 2 3 4 5

## Bronson

E1 Entertainment → Region B  
Blu-ray → £25 Approx



Nicolas Winding Refen's biopic of real-life bare-knuckle boxer and criminal Michael Gordon

Peterson (aka Charles Bronson) is an arresting piece of micro budget cinema. It doesn't quite get beneath his skin, but its energy is infective and lead Tom Hardy commands the screen. Costing less than £260,000 to make and shot on Super 16, *Bronson* may not be able to compete with Blu-ray blockbusters, but the AVC 1.78:1 image is still alive with grain and vibrant colours. Extras include a chat-track, a *Making of...* and the audio intro by the real Bronson that stirred up controversy at the premiere. **AvB**

1 2 3 4 5

## Trainspotting: Ultimate Collectors Edition

4DVD → Region B Blu-ray  
£22 Approx



Danny Boyle's playful mid-'90s tale of Edinburgh junkies hasn't dimmed with age. It remains an

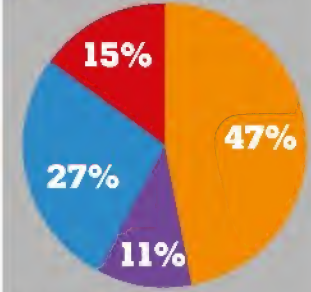
immensely entertaining piece of pop culture that tackles major issues in a serious way that still connects with mainstream audiences. Sadly, the film's Blu-ray debut isn't as auspicious as we'd hoped. 4DVD has got a lot right, such as including all the extras from the old two-disc DVD (plus a new do). But the big issue is the level of edge enhancement used to counter the film's low budget origins, which hurts the otherwise fine AVC 1.78:1 encode. **AvB**

1 2 3 4 5

## We asked you...

Are you happy with the new Sky+HD EPG?

- No, I wish I had the old basic EPG back
- Yes, I'm loving all the hi-def mini TV goodness
- I like elements of it, but it could be improved
- No strong feelings about it



Results of poll from  
www.homecinemachoice.com

# The complete bankers

Topical knee in the groin for the people we love to hate



**The International** definitely isn't the kind of gun-toting action-flick that its trailer and sleeve seem to indicate it to be. Sure, there's a big old shoot-out at the Guggenheim Museum in the second half of the film, but this slow-boiling thriller about international arms deals brokered by international banks is much more of a throwback to '70's filmmaking with its focus on twisting narratives and oblique storytelling to challenge its audience.

So if you're looking for bullets and battles you may do better to revisit Clive Owen's earlier *Shoot 'Em Up*. But if you're in the mood for something more complex and provocative, then you should find plenty to savour here...

**Rik Henderson:** *The International* ranks alongside the very best hi-def encodes I've seen for a live-action film. The VC-1 2.40:1 presentation features incredible levels of detail throughout as well as a consistent sharpness, and deep stable blacks, all of which works together to give the imagery a tangible sense of depth.

There's also a delightful, yet subtle layer of

grain in the image that gives it a naturally filmic feel. This is quite simply reference quality material.

**Adam Rayner:** It starts black, sound only, with thundery rain and fades in. The sound is a big part of this film's style. It uses throbby bass brilliantly to create tension and the voices are very close-miked.

Although some of the dialogue is quietly spoken at times, the voices become vast against any background music. This is used to create palpable tension creation. The music is intended to stir the emotions but it only once lets loose with a full orchestral blast. I hated the use of 'tinnitus' tones, which must have been horrid in theatres and forced me to take the unusual step of turning it down! Ultimately, this Dolby TrueHD 5.1 mix is well made and sonically gripping stuff.

**Anton van Beek:** *The International* comes to Blu-ray with a solid, if not quite spectacular set of extra features. These include an interesting chat track by the director and writer, a solitary 12min extended scene, a 30min *Making of...* and three additional featurettes looking at the role of architecture in the film, the building of the Guggenheim Museum set (the only extra not in HD), and the shooting at the Autostadt.

Exclusive to the Blu-ray is a BonusView mode that suffers from a slightly small window and occasional repetition of material that is found in the other features, along with some BD-Live content that includes Sony's new CineChat function. >



## HCC VERDICT

The International  
Sony Pictures → All Region  
Blu-ray → £25 Approx

We say: A smart, timely thriller that delivers the goods with this reference-quality hi-def disc.

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

## Overdrawn:

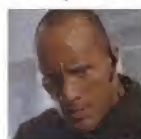
Clive Owen tries self-harming and automatic weaponry in a bid to meet his branch manager





## Doom

Universal Pictures → All-Region  
Blu-ray → £20 Approx



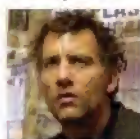
Dwayne 'The Rock' Johnson headlines in this adequate 2005 big-screen adaptation of the popular

videogame franchise. The plot is forgettable, the performances are average at best and only the action scenes (the standout being the much-touted 'first-person shooter' sequence) deliver the goods. This BD features a VC-1 2.35:1 encode of the 113min 'uncut' version of the film, that does its best with the extremely dark cinematography, plus a booming DTS-HD MA 5.1 soundtrack. Extras, ported over from the DVD in 480p, take the form of six short featurettes. **MC**

1 2 3 4 5

## Children of Men

Universal Pictures → All-Region  
Blu-ray → £20 Approx



I've visited Alfonso Cuarón's engrossing apocalyptic vision of the future on so many formats (cinema,

DVD, HD DVD and now Blu-ray) that it feels like I live there. The wait's been worth it. Cinematographer Emmanuel Lubezki's stylised visuals are handled with aplomb by the VC-1 1.85:1 encode, while the DTS-HD MA 5.1 audio offers exceptional tonality, if not the most persuasive surround experience ever. Extras include deleted scenes, various featurettes about shooting the film and its politics, plus BonusView content including a look at ads from the film and behind-the-scenes footage. **AvB**

1 2 3 4 5

## Highlander

Optimum → Region B Blu-ray  
£25 Approx



Was there ever a more '80's movie than Russell Mulcahy's tale of sword-fighting immortals? Big hair,

swooping cameras, neon lighting – it's like an extended Duran Duran pop video with an equally coherent narrative. But it still entertains – how can anyone not like a film where Sean Connery tells Christopher Lambert to 'Feel the stag!?' The Blu-ray's VC-1 1.85:1 encode is quite sharp, but suffers from varying grain levels due to the source. DTS-HD MA audio is presented in a lively 5.1 mixes. Extras include a commentary, 3-part doc, interview, deleted scenes and trailer. **AvB**

1 2 3 4 5

## Duplicity

Universal Pictures → R2 DVD  
£20 Approx



Michael Clayton's writer/director Tony Gilroy ties himself in knots with this comedic thriller about

a pair of corporate spies who hook up to rip off their respective bosses. Leads Clive Owen and Julia Roberts provide the chemistry, but the plot runs round in ever decreasing circles as it strives harder to keep us guessing as to who will betray who. If the film misfires, the anamorphic 2.35:1 transfer is gorgeous, the sharp visuals making up for the tremendously front-heavy Dolby Digital 5.1 soundtrack. The sole extra is a commentary by Tony Gilroy and his younger brother/co-producer/editor John. **MC**

1 2 3 4 5

# Long division

Superhero fun that's heavy on the twists and turns

**Push** is that rare thing, a superhero film that's not based on a comic book. At times, it feels like a remake of *Scanners* filmed by an MTV camera crew. It's about a race to find a missing girl in a world full of people with psychic powers who are controlled by a shadowy organisation called Division. It's exciting stuff, with excellent performances from leads Chris Evans and Dakota Fanning, but it suffers a bit from trying to work too many ideas into the one film. Maybe the sheer scope of the story would work better as a comic book after all.

**Rik Henderson:** For the most part, *Push*'s AVC 2.35:1 1080p encode is a real treat for the eyes. Awash in retina-scalding green, blue and yellow colours, it boasts a vibrancy few other titles can manage, and the superior detailing gives the imagery a remarkable depth of field. The only caveat to this is that, due to moments of guerrilla-style filmmaking in and around Hong Kong, some shots (such as the exteriors of the fish market starting at 15.32) were filmed using a 16mm Bolex camera, resulting in a considerably softer look that is less detailed and far grainier than the surrounding material.

**Adam Rayner:** For the content of the movie, *Push* is far more sparing with its visual effects than with its DTS-HD Master Audio 5.1 sound. The use of the full range from tiny detailed clicks to full-on fear-register deep throbbing bass and a banging music track with jangly guitar music, makes for a sonic treat. The parts with no backing music are thus more impactful. The plot's biggest psychic weapon is a sonic attack.

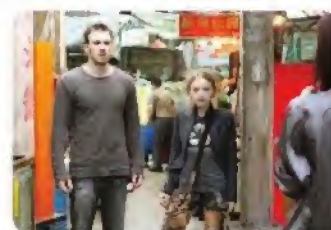


Who needs Heroes anyway?

Vocals are close-mic'd and there is lovely use of the rear channels by the sound designers. The film has definite sonic style as sharp as its visual one.

**Anton van Beek:** Sadly the extras lack the kind of imagination found in the film itself. The commentary by director Paul McGuigan and actors Chris Evans and Dakota Fanning doles out the odd interesting piece of technical info, but is far too giggly to really impress. Also on offer are a 9min featurette about the history of 'genuine' psychic powers and how they compare to what is seen in the film, along with four deleted scenes, with an optional commentary.

Rather annoyingly, you can't access the video extras from the pop-up menu while you are watching the film, as trying to do so takes you to a dedicated menu page with no way to instantly return to your place in the movie.



## HCC VERDICT

*Push* → Icon  
Region B Blu-ray → £25 Approx

**We say:** A vibrant, if slightly confused, superhero flick that makes for an exceptional AV experience in hi-def

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5



# Not any old mini adventure

A timely reminder of why remakes can be such a bad idea when the original's still great



Over the top:  
Catwalking Caine  
still gunning for  
the gold

**The Italian Job** is such a fun, frothy piece of late '60's escapism that even a rather saggy and slow-moving second act can't spoil the entertainment as you sit waiting for that climactic car chase. It also manages to be that rarest of things in the cinematic climate, a mainstream action film with a sense of social commentary, offering a brighter and more playful spin on the 'angry young men' movies that had crept into UK cinemas during the decade.

But beyond that you will be kept splendidly entertained by the excellent performances, reams of quotable lines, and the longest and most impressive car advert for the iconic Mini that its manufacturer could ever hope to devise.

**Rik Henderson:** For the most part this restored hi-def release certainly manages to do the film proud. It's framed at 2.35:1, and the AVC encode is completely free from dirt and scratches, while colour reproduction is particularly strong.

If there's one caveat, it is that while fine film grain can still be discerned there are telltale signs of some over-eager digital noise reduction (DNR) being applied to the image, robbing it of some fine detailing.

Minor edge enhancement has also been applied in an effort to sharpen the image. It's far from being a disaster though and it's a big improvement on past DVD releases.



**Mark Craven:** This 40th Anniversary Blu-ray sports two audio mixes. For the die-hard purists there's a restored Dolby Digital dual-mono track, while those looking for a little more 'oomph' can opt for the Dolby TrueHD 5.1 remix. The latter, naturally, has improved dynamics, but the former still sounds remarkably clean, with no hiss or dropouts, with dialogue that is nicely balanced in the mix.

**Anton van Beek:** Paramount has clearly put a fair amount of effort into gathering together a pretty comprehensive clutch of extras for this special 40th anniversary release. The best of the bunch is undoubtedly the 89min *Making of...* documentary that draws on conversations with all of the major players in the film's production, although the commentary tracks by screenwriter Troy Kennedy Martin and producer Michael Deeley are also well worth a listen.

Joining these you will find a featurette on car stunts, a music video, a deleted scene (the only video extra that is not in HD) and two trailers. The only real issue is that you can't access the extra features from the pop-up menu while watching the film, as it only provides Pause/Resume, Settings, Scenes and Home options.



## HCC VERDICT

The Italian Job: 40th Anniversary Special Edition → Paramount  
All-Region Blu-ray → £20  
Approx

**We say:** While not blowing the doors off, it's still a fine Blu-ray outing for this classic Brit caper

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5





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# Canine caper

Disney dog show is CG classic

**Bolt** began life as a story by Chris 'Lilo & Stitch' Sanders called *American Dog*, and initially looked to be every bit as offbeat and unique as his previous film. Sadly, it wasn't to be. The film was the first Walt Disney Feature Animation project overseen by Pixar's John Lasseter and, citing plot issues, the film was completely reworked resulting in Sanders quitting.

While many expected the result to be more anodyne, the good news is that *Bolt* is a fine piece of family fun. The set-up (about the titular canine star of a TV series, who doesn't know that he's fake) is fresh enough to make up for the typical Disney character arc, the gags are sharp and, most importantly, it's a major step up from the previous WDFW efforts like *Meet the Robinsons*.

**Rik Henderson:** You want reference quality 1080p imagery? Well, the Blu-ray edition of *Bolt* has it in spades. The disc may not include the 3D version that played at selected cinemas, but who cares when the 'flat' 2D AVC 1.78:1 encode looks so good. Like *Wall-E* and *Kung Fu Panda* before it, *Bolt* is another flawless digital-to-digital transfer for a CG animated feature, and – thanks to excellent blacks, bright colours and remarkable detailing, it looks spectacular. **Steve May:** The reference quality



*Bolt's plot mixes The Truman Show with an animated Lassie*

presentation extends to the audio. The 5.1 DTS HD Master Audio mix is a technically stunning brew of frothy directional effects (objects are panned front to back with exhausting regularity during the movie's 'Michael Bay' opener) and hi-fi score. It also makes surprisingly good use of LFE. The .1 channel goes deep and loud, whenever an exclamation is required for the drama, or things blow up.

The score by John (Horton Hears a Who, Hancock) Powell, however, is a bit like a theme park ride – fun while it lasts but quickly forgotten. **Anton van Beek:** If *Bolt* falls down it's with the extras, which are almost all geared towards young viewers. Best are the new animated short *Super Rhino* (4mins/1080p) and the *Creating the World of Bolt* featurette (7mins 1080i) that looks at the choice of painted backgrounds instead of CG-renders. You also get two deleted scenes, mini featurettes about the voice talent and directors, art galleries, a set-top game and a music video, all presented in HD. It also includes a DVD of the film.



## HCC VERDICT

Bolt → Walt Disney → Region B Blu-ray → £24 Approx

We say: A fun, fast-paced film that delivers outstanding AV quality on Blu-ray. You'd have to be barking mad to miss this one!

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

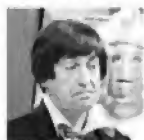
Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5

## Doctor Who: The War Games

Zentertain Ltd → R2 DVD  
£25 Approx



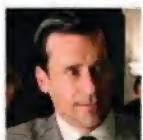
Forget 'New Who' – if you want to see the time traveller at his best then you can't go wrong with Patrick

Troughton's swansong from 'Classic Who'. Plenty of repetition creeps in over 10 episodes (get captured, run away, get captured again), but it's still a great story packed with marvellous ideas. It's also a landmark for being the final black and white story and the first appearance of the Time Lords. This 3-disc set boasts beautifully restored 4:3 imagery and extras including commentaries, documentaries, set visits, interviews and even a fan film with Jon Pertwee! **AvB**

1 2 3 4 5

## Mad Men: Season Two

Lionsgate → Region B Blu-ray  
£45 Approx



The brainchild of *Sopranos* writer/producer Matthew Weiner, this peek into the boardrooms and bedrooms of New York advertising executives during the early 60s goes from strength-to-strength in this second season. Given that *Mad Men* remains the most stylish show on TV, it's fitting that this three-disc set delivers stunning AVC 1.78:1 encodes. Generous extras include two audio commentaries for each episode, two docs about the rise of women's lib during the era, a costume design featurette and an interactive guide to the historical events. **AvB**

1 2 3 4 5

## In the Loop

Optimum Releasing → R2 DVD  
£18 Approx



Even though it never really stretches beyond what would be possible in a feature-length TV special (despite a couple of visits to the US) this big-screen outing for Armando Iannucci's BBC series *The Thick of It* is still one of the funniest films you'll see this year. The equally hilarious and profane political satire comes to DVD with a naturalistic anamorphic 1.78:1 transfer and a subdued DD5.1 soundtrack that deals particularly well with the profanity-ridden dialogue. Fascinating extras include an insightful commentary, 28 deleted scenes, four interviews, 12 webisodes and the trailer. **AvB**

1 2 3 4 5

## Flight of the Conchords: Season Two

HBO Video → R2 DVD  
£25 Approx



Two years in the making, thanks to the duo using up most of their material in the original series, this second look at 'New Zealand's fourth most popular folk parody duo' is worth the wait. Not every episode is a classic, but between the cultural stereotypes and excellent music spoofs there's still much to enjoy. The anamorphic 1.78:1 transfer looks better this time, no doubt, due to a bigger budget, and the DD5.1 audio works wonders with the music. Extras include a documentary, deleted scenes, outtakes and more. **MC**

1 2 3 4 5



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## Afro Samurai: Resurrection

Manga → Region B Blu-ray → £23 Approx



Picking up a few years after the original series, this feature-length outing finds the Samuel L.

Jackson-voiced Afro giving up a life of peace and returning to his violent ways when some malcontents bring his dad back from the dead (don't ask). Pacey and fun, Afro's latest adventure will please fans of the original – as will the colour-saturated AVC 1.78:1 1080p encode and Dolby TrueHD 5.1 audio, which does great things with the onscreen action and RZA's music. Extras include a video commentary, featurettes, and documentaries. **MC**

1 2 3 4 5

## Shigurui Death Frenzy

Manga → Region B Blu-ray → £30 Approx

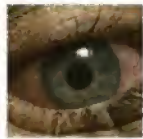


Samurais seem to be the rage in anime and *Shigurui*... is one of the darker takes on it. The moody story appears to be the usual samurai period stuff, but quickly takes unexpected turns into dark and nasty territory – this is for adults only. The stylised, stark and gritty visuals look impressive on an AVC 1.78:1 1080p encode for all 12 episodes in this two-disc set. Sadly, only the English dub gets the Dolby TrueHD 5.1 treatment, the original Japanese track is just a lossy Dolby 2.0 affair. Extras are limited to two commentaries, art galleries and textless opening and closing songs. **AvB**

1 2 3 4 5

## The Burrowers

Lionsgate → R2 DVD  
£13 Approx



*The Burrowers* is proof you shouldn't dismiss a movie because it bypassed cinemas and went direct-to-DVD. This slow-burning period horror mixes the best of the Western genre with Lovecraftian chills in an unsettling story of a posse seeking the killers of a local family. Suffice to say, what they find is far worse than the rogue 'Indian' suspects. The film's expansive 2.35:1 cinematography is well served by the sharp DVD transfer, while the DD5.1 audio is deliciously atmospheric. Having lost the commentary from the R1 release, this UK disc offers a pair of featurettes as the only extras. **AvB**

1 2 3 4 5

## Crouching Tiger Hidden Dragon

Sony Pictures → All-Region Blu-ray → £20 Approx



The film that introduced a generation of fans to the wonders of Asian cinema finally goes high-def. And fans are likely to be happy with the results. If there's any real flaw it's the meagre extras. Only a commentary, interview with Michelle Yeoh, photo gallery and short *Making of...* featurette are included. However, the AVC 2.35:1 encode is a real treat. Imagery is sharp and beautifully detailed with a fine layer of film grain throughout. The Dolby TrueHD 5.1 audio is equally impressive thanks to a truly immersive feel and wide dynamic range. **AvB**

1 2 3 4 5

# Grow up Jason

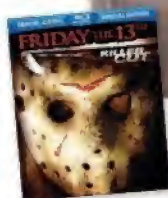
Franchise is no prettier close up

**Friday the 13th** is the latest horror re-imagining from Michael Bay's Platinum Dunes production company, previously responsible for the remaking of *The Texas Chainsaw Massacre*, *The Hitcher* and *The Amityville Horror*. Like its predecessors, it's glossier and more expensive than the originals, and packed with a cast of sexy 20-somethings. And, as with the original franchise, sex and death is the order of the day. But for some reason it never quite gels. It's not bad, but not quite the re-birth Jason Voorhees deserved.

**Rik Henderson:** This new *Friday the 13th* slices its way onto Blu-ray with an adequate, rather than exceptional, VC-1 hi-def encode.

Framed at the original 2.40:1 aspect ratio, the transfer copes extremely well with the deep blacks that typify the cinematography, but less well with detailing. Several sequences look surprisingly soft and blurred, robbing the imagery of the kind of impact we've come to expect from top-notch 1080p encodes.

**Adam Rayner:** This flick's director is known for well crafted stuff with killer sounds, and the film's Dolby TrueHD track was a delicious opportunity for sound design with those lovely nocturnal soundscapes full of chirping crickets. You feel the space and startle at scary rustlings and details in single rear channels. He even uses



dynamic rock music from a character's headphones as feature music along with the sickening crunch of a blade ripping through bones. Hell breaks loose and you cower as SFX and screaming lifts your already raised scalp. It's brilliantly executed and makes you clutch for the loved one's hand.

**Anton van Beek:** Heading up the disappointing extras is a separate encode of the theatrical cut, which runs about 9mins shorter than the 'Killer Cut' and has identical picture and sound quality. The 'Killer Cut' boasts a rather lacklustre Picture-in-Picture BonusView track that mixes behind-the-scenes footage and interviews (much of the latter is culled from the disc's featurettes) with sporadic trivia boxes that cover a variety of topics. Following this are two dull EPK-style featurettes, a look at the making of seven of the film's kills, three additional scenes and a BD-Live link. A second disc includes a Digital Copy of the movie.



Jason: Still struggling with mother-child issues



## HCC VERDICT

Friday the 13th: Killer Cut → New Line  
All-Region Blu-ray → £21 Approx  
(www.movietyme.com)

We say: Re-invented Jason struggles to impress in HD.

Picture: 1 2 3 4 5

Sound: 1 2 3 4 5

Extras: 1 2 3 4 5

Movie: 1 2 3 4 5

Overall: 1 2 3 4 5



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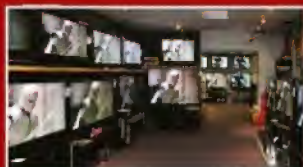
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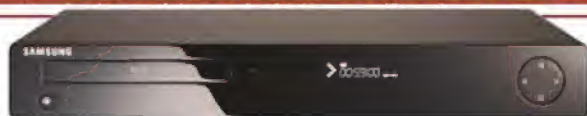
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# Feedback

Got an axe to grind? Want to comment on current technology? Need to share? **HCC** is here to help

## Boo to 21:9!

I think Philips Cinema 21:9 is a bad trend. Screens have reached the perfect width for human bifocal vision.

Full-frame (4:3) was naturally too narrow, and now this abomination is trying to introduce a standard too wide.

I can understand how a slowing market would push Philips to try to create new demand, but by leading the industry off a cliff? To summarise – boo!

Alex, via e-mail

An interesting viewpoint, Alex. That the IMAX format is 1.44:1 perhaps backs up your theory on the 'perfect width for human bifocal vision', but no one is advocating that you sit so near the Philips 21:9 that it fills your field of vision! And it's not really Philips introducing a

'standard too wide', as 21:9 format (2.35:1 and 2.40:1) films have been around for ages.

## Old amp obsolete?

I recently found this 'bug'. I have a Pioneer THX receiver, the AX5Si, which cost me a considerable amount of money.

It turns out that it cannot decode any AC3 films which have a bitrate of 640kps. I never experienced this with DVDs as they tended not to use such a high bitrate for space concerns. But Blu-ray films do use this bitrate – 640kps was always in the AC3 spec.

Oddly, my older Sony DB930 decodes them just fine.

This might be of interest to your other readers. Pioneer says there are no firmware updates available for this amp. As it stands, with Blu-ray, it's a bit of a brick!

Gareth, via email



Sadly, this is not an isolated story. There are many cases of 'high-end' kit no longer being cutting-edge – just look at the multitudes of standard definition (or even HD Ready) flatscreen TVs out there.

However, you do have options: As this amp has 7.1

channel inputs, you should be decoding hi-res soundtracks in the Blu-ray player and outputting them as lossless PCM over analogue. Or, of course, you could invest in a new amp, and enjoy a whole raft of new features. It'll be cutting-edge for weeks at least.



## How good can Blu-ray really be?

I have been subscribing to your magazine for almost a year now and have also registered with the website.

I was hoping to pick someone's brains over a suitable 7.1 THX speaker system with at least one or possibly two subs. My query is as follows...

I have a dedicated cinema room with an overall width of 5.8m, a viewing distance of around 4.7m and a distance of 2.1m from the viewing position to the rears.

My current arrangement consists of B&W HTM61 Centre, B&W 684 fronts, B&W MTIs for the sides and rears, and a PV1 sub. I would like to upgrade to either a Klipsch system, Miller and Kriesel 150s or a German brand you've featured recently but whose name escapes me at the moment. I am running a Yamaha RX-V3800 AV receiver.

Any tips you can give that would avoid me spending £8-10k on a full THX package would be appreciated – £5k would be a more realistic budget. I am



neither an audiophile or a cinephile but I would like to have an awesome sounding set-up with real impact.

I would also be interested in your thoughts on the cross matching of the 600 series B&Ws with the MTIs and whether you think a second sub would be justified in this size of room.

Paul, via email

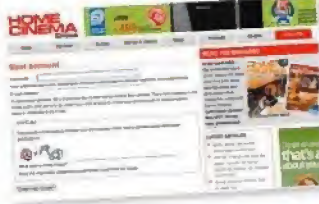
German speaker-maker Teufel has the widest range of THX-certified speakers in Europe. We would recommend the brand's System 9 THX Ultra 2 package (although make sure you can accommodate the subwoofer – it's big!). It's currently priced at under £3,500. However, the Klipsch THX Ultra2 package is also well worth auditioning. Arguably, it has superior build quality, but comes in at just over £6k. We fear the



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### Ohmless

I've noticed a recent trend to omit the 4Ω power measurements from your results table. Is this to continue in the future? I hope not!  
*Mike Grady, via email*

Unfortunately, Mike, this will continue. We've changed the way we present our Tech Labs' findings, based on feedback from readers. We still record 4Ω power measurements, along with other tests, but simply don't have the space to show them. It boils down to 8Ω speakers being much more prevalent than 4Ω ones.

### Plasma problem

I wonder if you could help with a plasma screen query. I have recently acquired an old copy of *Home Cinema Choice* (Dec

2003) and was reading an article pertaining to the Panasonic TH-42PW6. You mention that this model has 'not one, but four screenburn counter-measures'. I have recently purchased a Panasonic TH-46PZ81B plasma screen and having read the instruction manual, cannot find any mention of screenburn counter-measures. Could you please tell me what these counter-measures on the PW6 unit consisted of? The old article does not disclose them. Also, does my screen contain any such technology? Any help is much appreciated.  
*Lee Massey, Northwich*

Modern plasma TVs are less prone to screen burn, and the Panasonic panels have numerous safe guards already built into them that perform their duties without you noticing. One tip though, for the first couple of months, be careful with the contrast controls. Don't leave bright, static pictures on the screen for prolonged periods of time. And if you have any screen retention issues (which are not permanent) it is best to play a white screen for a few minutes – but not too long as it will reduce the life of your set.

### Worst. BD deck. Ever

I was intrigued to read in *HCC* that the wait is over for a UK BD deck from Philips, with the BDP7300 appearing soon. As it happens, I managed to buy a Philips BDP7100 in Belfast in March 2008.

Being an avid home cinema enthusiast and an early adopter of new technology, I bought this player on the recommendation

of the store owner, and because of its onboard Dolby TrueHD and DTS-HD decoding. I didn't mind that it was Profile 1.0, as I am not interested in accessing on-line content – I simply want to watch movies in top-quality vision and sound, and enjoy whatever extras the distributors see fit to provide us with.

The first Blu-ray discs I played on the machine were *Batman Begins*, *Master & Commander* and *Spider-Man 3*. However, I was somewhat surprised at the inordinate amount of time it took the discs to load up – five minutes or more while the machine would noisily grind and moan! I was also surprised to find that I couldn't access the extras. As I said, I didn't expect a lot from this player, but at £400, this was a bit much.

I contacted Philips online and in fairness received a very speedy response. They provided a link to a firmware upgrade, which I burned onto a CD and inserted into the machine. Fine. I can now view the extras. However, as my Blu-ray collection expanded I noticed that, on playback, the discs would occasionally skip a few frames and jump forward.

For me, this ruined the experience of watching the movies. This problem was so bad on *Hancock* that I was convinced it had to be a problem with the disc, but the same problem persisted with another copy. And so it went on with every disc I bought (*American Gangster*, *The Condemned*, *The Island*, etc). It seemed incapable of playing a full movie without skipping.

Finally, I just gave up and last Christmas bought a Panasonic DMP-BD35 for £200. This player has been a joy to behold and is everything the Philips was not, for half the price. I decided that henceforth I would play my Blu-rays on the Panny and DVDs/CDs on the Philips. The other evening my wife and I were reading with a classical CD playing in the background. She asked what the strange noise was so I turned down the volume and sure enough the Philips was doing a fine impersonation of a tumble dryer. I put the same CD

## From the website

Is Aldi's Blu-ray deck worthy of *HCC* coverage? (see p78)...

'What a waste of space. When you can buy the new Samsung BDP1600 or the Sony BDP-S350 for £130 and £140 respectively from Richer Sounds, why would you even consider this joke of a player?'

**Posted by... Scott219843760**

'I was curious as to what this player was like, having seen it advertised. Personally, I don't think I'd buy one but it's great to know what you guys think of it. Funny thing is, this is probably the future of Blu-ray. Next stop Tesco!'

**Posted by... Badtzmaru**

'Many thousands of people visit supermarkets like these in the UK every day. Some must feel tempted to make an impulse buy. So why shouldn't we feature such kit and forewarn them of any pitfalls (as well as pointing out any advantages)? Could save them a lot of bother, petrol and/or money.'

**Posted by... Martin Pipe (HCC)**

'Yes we do need reviews like these. What if this unit turned out to be a giant killer? We would all be a bit pissed off!'

**Posted by... Martin Gillespie**

Want to get something off your chest? Join the debate online at [www.homecinemachoice.com](http://www.homecinemachoice.com)

MK 150 system is beyond your price range.

As for the Bowers & Wilkins system you have created, we could only guess what it sounds like in your environment – you are better placed to make that specific judgement. However, we'd recommend you consider replacing the sides and rears with 685s or 686s. And it is always a good idea to have two (or more) subwoofers... your room seems large enough.

**Winner:** Star Letter writer Paul wins a copy of *Knowing* on Blu-ray courtesy of E1 Entertainment. It's available to buy from August 3, priced £29.99.

Write to Letters, Home Cinema Choice, Future Publishing, 2 Balcombe Street, London NW1 6NW, or email us at [hcc@futurenet.co.uk](mailto:hcc@futurenet.co.uk). Due to the volume of letters we receive we cannot guarantee to print/answer them all.

in my 14-year-old Sony DVD player (DVP-S525D) and enjoyed the rest of the CD in silence, so to speak.

I have now given up on the Philips completely but I look forward to your review of their latest offering. I for one shall not be rushing to upgrade to Philips anytime soon!

*Tony Daly, via email*

I guess there's a lesson to be learned here for us all. Perhaps it shows why Philips didn't release this player *en masse*? ●



# How we test

*Home Cinema Choice's* hardware reviews combine the subjective opinion of our seasoned reviewers with hard technical data.

**Chris Jenkins** explains how the *HCC* Tech Labs work

**HCC** reviews tend to be a mixture of subjective opinion and objective data. While we value the subjective opinions of our highly experienced reviews team, we like to blend and balance their opinions with objective measurements. The *HCC* Tech Labs have been measuring AV equipment for nearly 20 years. It was originally conceived to evaluate the performance of VCRs and CRT TVs, and it is now routinely testing Blu-ray players and HD displays.

Interestingly, much of our first generation hardware is still in use (we maintain an irrational fondness for an oscilloscope used to determine the onset of clipping on amplifiers), although our more venerable hardware is now supplemented by new software and measurement methodologies. One thing remains unchanged though: our commitment to supply you with the best possible buying advice.

## Virtual Tour

Our Tech Labs consist of two main facilities: a Viewing Room, and a Test Lab.

The Viewing Room is used mainly for testing TVs, projectors and speakers and has been designed to reproduce the conditions that are found in a typical mid-range home cinema setup. It was created by award-winning custom installers Pounds ([www.poundstv.co.uk](http://www.poundstv.co.uk)), and is completely light-proofed. While it is not designed to be sound-proof, it has been skinned in Acoustiblock and has been acoustically treated and tuned by the experts at RPG ([www.rpg-europe.co.uk](http://www.rpg-europe.co.uk)), using custom absorbers and diffusers. The room features multiple HDMI, component video and audio cable runs, as well as analogue and digital TV and satellite feeds, and has a resident 7.2

speaker system. Multiple screens can be fed the same source material simultaneously, courtesy of a Gefen 2-in-4-out HDMI switcher/splitter, for screen shootouts.

## Number crunching

The Test Lab is used mainly for number-crunching DVD/Blu-ray players and amplifiers. It's equipped with two industry-standard systems: a Tektronix VM700 video data analyser, and a Miller Audio Research audio analysis suite. Using standard test signals from discs and signal generators, these two systems are used to measure factors such as audio and video signal jitter, frequency response and output power. These give us a good general idea of the component quality, processing power and overall performance of players and amplifiers.

## Professionals at large

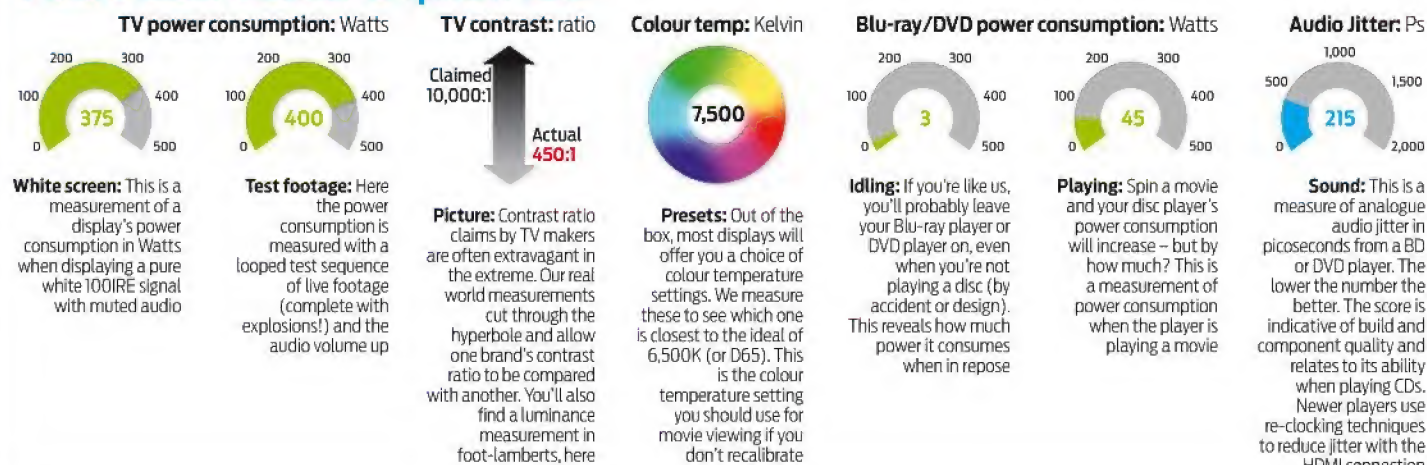
Over the years, our testers have been trained in calibration and testing techniques by the ISF, Tektronix, the Home Acoustics Alliance and other industry bodies. In short, when you read a review in *HCC*, you can be sure that the reviewer's subjective opinion is backed up by objective scientific lab testing.

## Understandable and useful

One of our pledges is to present information that is both understandable and useful, for example, exposing the hype perpetrated by some makers of plasmas and LCD TVs regarding contrast ratios. To determine real world contrast, as well as measuring colour temperature presets, we employ a Sencore VP401 signal generator alongside a PC running Datacolor Colorfacts software with a Spyder 2 sensor. We use the Sencore signal generator and our own discs to generate standard TV



## Tech Lab tests explained







### Test bench:

Equipment from the likes of Snell & Wilcox, and Techtronix allows us to compare all manner of kit

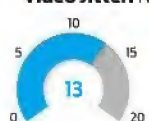
signals. Colorfacts analyses the colour and luminance performance of TVs and projectors, giving us information in areas such as contrast ratio, colour temperature and luminance.

### Playback

Increasingly, you've been asking for more information on power consumption, and so we've now moved these

results to a headline position on our tests. We've also developed a more graphical presentation (key below) of some of the data we produce, which should make the facts more relevant and digestible. Not all the data we generate is published (frankly, you'd be bored) but all of it goes into the melting pot of opinion. While one key reviewer is bylined for our tests, as many as four team players will contribute to our findings ●

#### Video Jitter: Ns



**Vision:** This is a measure of video jitter in nanoseconds from a BD or DVD player. The lower the number the better. The score is indicative of build and component quality. We also present figures for Chroma Crosstalk (another quality indicator) and frequency response @5.8MHz

#### Loading: Boot/Java

**Boot speed & tray eject**  
15s  
**Tray in to main BD menu**  
45s

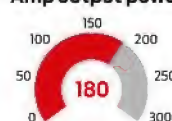
**Disc loading & Java:** Blu-ray players can be notoriously slow to load and play discs, thanks to the DRM and Java content of BD software. These timings are crucial to the user experience – naturally faster is best

#### AVR power: Watts

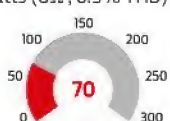


**Powered:** When you fire up that big AV receiver to watch a new movie you may be surprised to learn just how much current it's drawing. This is one of two measurements we take for AV amp power consumption. The other is when the AVR is powered up but idle

#### Amp output power: Watts (8Ω, 0.5% THD)

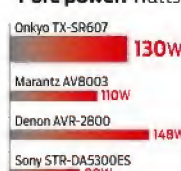


**2-channel 8Ω:** So just how heroic is that AVR you've been saving for? Putting aside paper claims, we measure its output in two-channel stereo mode. Also noted here is a figure for Total Harmonic Distortion



**5-channel 8Ω:** In most cases, an amplifier's muscle will be diminished when it runs in multichannel mode. We push the product to extremes in a 5.1 configuration to see how much grunt is available with all channels driven

#### Pure power: Watts



**Fidelity firewall:** This is our measurement of power untainted by distortion (typically 0.052THD, 8Ω, 1kHz). It's an indicator of both power output and component quality

#### Signal/noise: dB



**S/N tests:** These amp measurements reveal the ratio of noise to signal at a specific frequency. Readings taken at low, mid and high points help determine imaging clarity and sonic character





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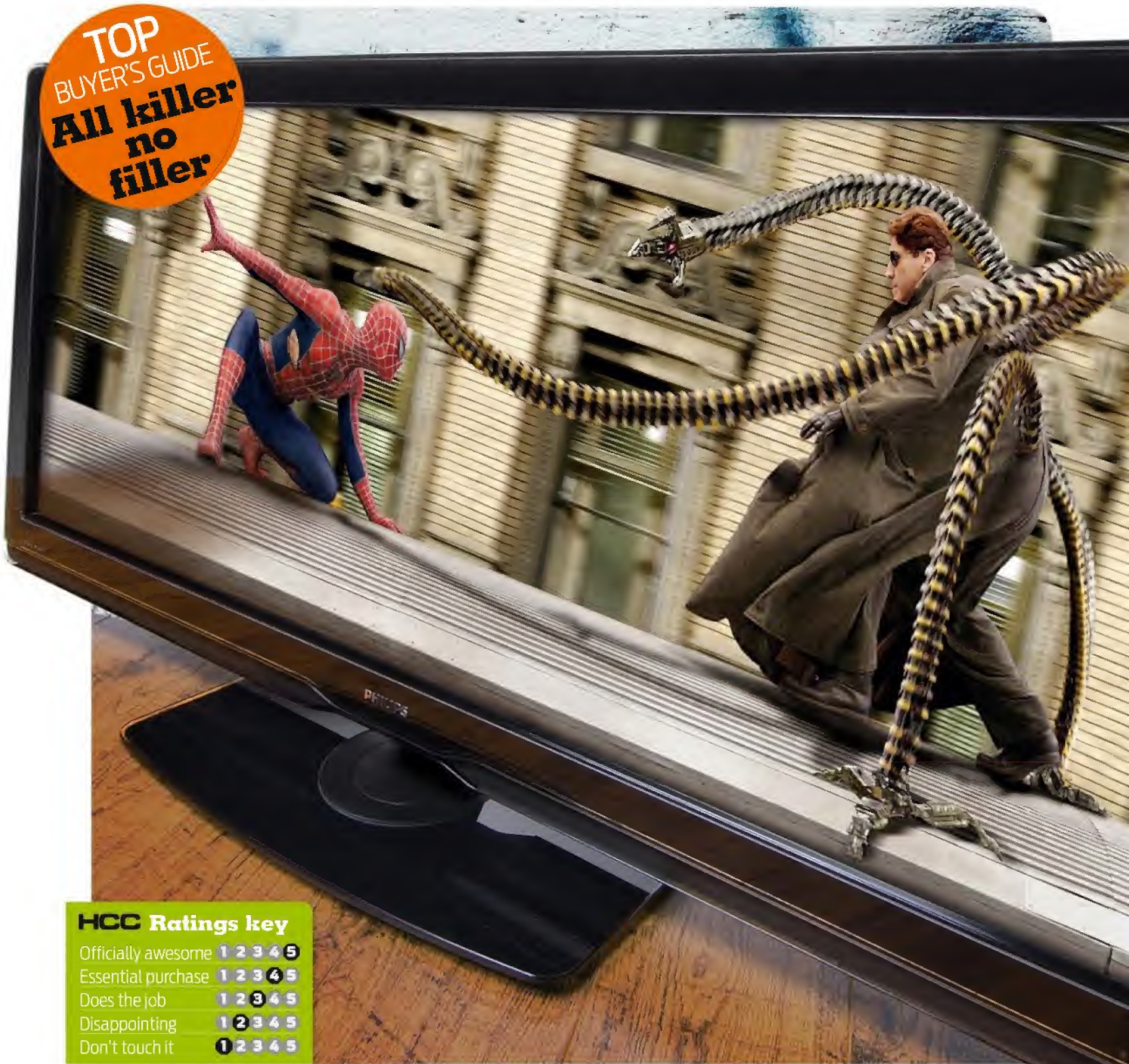




# SELECT

→ **Buying Guide** **BEST EVER LCD TV** The top performing LCD screens in the UK revealed **HI-DEF PLAYERS** Looking for a Blu-ray deck? We help you choose **PLASMA POWER** Your guide to the ultimate bigscreen TV **ROCKIN' RECEIVERS** The best specs and latest codecs **SUPREME SPEAKERS** Need a 5.1 package? We name the best! **PLUS** subwoofers, projectors, PVRs & more...

**TOP**  
BUYER'S GUIDE  
**All killer  
no  
filler**



## HCC Ratings key

Officially awesome **1 2 3 4 5**  
Essential purchase **1 2 3 4 5**  
Does the job **1 2 3 4 5**  
Disappointing **1 2 3 4 5**  
Don't touch it **1 2 3 4 5**



# LCD TV

## Best on test...



**SONY**  
46in → KDL-46Z4500  
£2,300 Approx

1 2 3 4 5

Much-hyped 200Hz Bravia LCD impresses in other areas, too

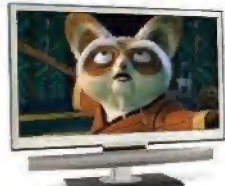
**Highs:** 200Hz aids motion clarity without causing serious glitching; beautiful build  
**Lows:** Limited calibration tools

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (and CI slot)

**Tested:** Issue 166

**For price check visit:**  
[www.techradar.com/486975](http://www.techradar.com/486975)



**SHARP**  
52in → LX-52XSIE  
£9,000 Approx

1 2 3 4 5

Insanely priced RGB LED-backlit TV is a glimpse of the future

**Highs:** Gorgeous aesthetics; rich, involving pictures  
**Lows:** Complex setup; satellite tuner not HD-capable

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (and CI slot and DVB-S)

**Tested:** Issue 164

**For price check visit:**  
[www.techradar.com//487420](http://www.techradar.com//487420)



**SAMSUNG**  
40in → UE40B7000  
£1,250 Approx

1 2 3 4 5

Superslim, edge-lit LED screen looks the business

**Highs:** Superb HD images; multimedia functions; design  
**Lows:** Poor audio performance; no wi-fi adapter included

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 1 (RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes, (& analogue & CI slot)

**Tested:** Issue 171

**For price check visit:**  
[www.techradar.com/604142](http://www.techradar.com/604142)



**PHILIPS**  
56in → Cinema 21:9  
£4,500 Approx

1 2 3 4 5

A groundbreaking ultra-widescreen TV

**Highs:** Unique, inspired aspect ratio; detail presentation  
**Lows:** Limited black levels; uneven CCFL backlighting

### → Specifications

HD Ready: Yes (up to 1080p)  
Native resolution: 2560 x 1080  
No. of HDMI inputs: 5  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes, plus CI slot

**Tested:** Issue 171

**For price check visit:**  
[www.techradar.com/607940](http://www.techradar.com/607940)



**PHILIPS**  
42in → 42PES0001  
£1,800 Approx

1 2 3 4 5

Philips' modular TV drops Ambilight but doesn't suffer

**Highs:** Sexy form factor and quality build; eye-catching images  
**Lows:** Complex menus

### → Specifications

HD Ready: Yes (to 1080p24)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (& analogue & CI slot)

**Tested:** Issue 168

**For price check visit:**  
[www.techradar.com/579400](http://www.techradar.com/579400)

## Also Recommended...



**PHILIPS**  
42in → 42PFL9803HD  
£2,500 Approx

1 2 3 4 5

Philips debut LED-lit TV

**Highs:** Good contrast; smooth movie motion; tasty connections; classy looks and build  
**Lows:** Some smearing with fast motion; annoying remote

### → Specifications

HD Ready: Yes (to 1080p24)  
1920 x 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (& CI slot)

**Tested:** Issue 166

**For price check visit:**  
[www.techradar.com/463577](http://www.techradar.com/463577)



**SONY**  
37in → KDL-40W5500  
£900 Approx

1 2 3 4 5

Excellent LCD all-rounder

**Highs:** Impressive dynamic contrast and smooth motion; networking features  
**Lows:** Styling is bland; AppliCast needs more content

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (and CI slot)

**Tested:** Issue 171

**For price check visit:**  
[www.techradar.com/604105](http://www.techradar.com/604105)



**TOSHIBA**  
42in → 42ZV555D  
£900 Approx

1 2 3 4 5

Much-touted Resolution+ LCD gives a polish to SD sources

**Highs:** HD performance; Resolution+ doesn't disappoint  
**Lows:** Uninspired sound and design; no Res+ over HDMI

### → Specifications

HD Ready: Yes (to 1080p24)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (& analogue & CI slot)

**Tested:** Issue 165

**For price check visit:**  
[www.techradar.com/492878](http://www.techradar.com/492878)

## Editor's Choice...

**SAMSUNG**  
55in → LE55A956D  
£2,800 Approx

1 2 3 4 5

Samsung's monster-sized LED-backlit LCD picked up a Home Cinema Choice Best Buy award in #168, because in many ways it helped push liquid crystal to the forefront of TV tech. Our Labs measured its contrast ratio at over 200,000:1 with its Smart LED mode on; couple this with smooth 100Hz processing, class-leading connectivity and cutting-edge media streaming and you've got a flagship telly to fall in love with.

**Tested:** Issue 163

**For price check visit:** [www.techradar.com/476857](http://www.techradar.com/476857)



### → Specifications

HD Ready: YES (up to 1080p)  
1920 X 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: YES (AND CI SLOT)



# Plasma TV

## Best on test...



**PIONEER**  
60in → KRP-600A  
£5,000 Approx



Kuro with separate media box, Ethernet and satellite tuner

**Highs:** Awesome black levels; colour accuracy; slim panel; medi-savvy

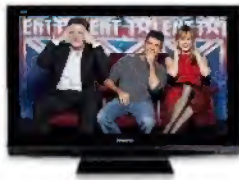
**Lows:** Problems with AVI files

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 3 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (plus CI slot and DVB-S2 tuner)

**Tested:** Issue 164

**For price check visit:**  
[www.techradar.com/487206](http://www.techradar.com/487206)



**PANASONIC**  
46in → TH-46PZ81  
£1,600 Approx



Freesat-ready plasma is an early adopter's dream

**Highs:** Excellent definition and good contrast; strong audio, Freesat HD functions

**Lows:** Needs a dish for Freesat

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: 1 VGA  
Digital tuner: Yes (plus Freesat tuner and CI slot)

**Tested:** Issue 157

**For price check visit:**  
[www.techradar.com/363388](http://www.techradar.com/363388)



**PANASONIC**  
50in → TX-P50V10B  
£1,900 Approx



THX-certified, Viera Cast-touting NeoPDP

**Highs:** THX mode is stunning out of the box; good feature set

**Lows:** Unspectacular black level response; a bit chunky

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (2 RGB)  
No. of component inputs: 1  
PC input: Yes  
Digital tuner: Yes (plus Freesat tuner and CI slot)

**Tested:** Issue 171

**For price check visit:**  
[www.techradar.com/604030](http://www.techradar.com/604030)



**PIONEER**  
50in → PDP-LX5090  
£2,500 Approx



Baby brother of the LX6090 Kuro panel

**Highs:** Unbelievable contrast and black levels; superb detail

**Lows:** Speakers are an optional extra only

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 3 (2 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (plus CI slot)

**Tested:** Issue 159

**For price check visit:**  
[www.techradar.com/417409](http://www.techradar.com/417409)



**LG**  
32in → 32PG6000  
£500 Approx



World's smallest 32in plasma challenges LCD rivals

**Highs:** Smooth movement; good blacks and connectivity

**Lows:** Lack of detail; some jagged edges; average audio

### → Specifications

HD Ready: Yes  
1024 x 720 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: Yes  
Digital tuner: Yes (plus analogue)

**Tested:** Issue 162

**For price check visit:**  
[www.techradar.com/467207](http://www.techradar.com/467207)

## Also Recommended...



**LG**  
50in → 50PG6000  
£1,100 Approx



Superb HD Ready plasma offering great value for money

**Highs:** Extensive calibration possibilities; excellent black level; sexy bezel

**Lows:** Not Full HD

### → Specifications

HD Ready: Yes  
1366 x 768 resolution  
No. of HDMI inputs: 4  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: 1  
Digital tuner: Yes (plus CI slot)

**Tested:** Issue 154

**For price check visit:**  
[www.techradar.com/241069](http://www.techradar.com/241069)



**PANASONIC**  
37in → TH-37PX80  
£650 Approx



Small PDP from Panasonic continues the Viera vibe

**Highs:** Beautiful blacks; natural colours; good GUI

**Lows:** HDMI v1.2 inputs lack DeepColor support

### → Specifications

HD Ready: Yes  
1024 x 720 resolution  
No. of HDMI inputs: 3 (v1.2)  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: Yes  
Digital tuner: Yes

**Tested:** Issue 162

**For price check visit:**  
[www.techradar.com/322863](http://www.techradar.com/322863)



**SAMSUNG**  
50in → PS50A556  
£1,000 Approx



Bargain-priced monster screen with a few caveats

**Highs:** Superb specification; great build quality; sharp detail

**Lows:** Some motion artefacts and noise visible

### → Specifications

HD Ready: Yes (up to 1080p)  
1920 x 1080 resolution  
No. of HDMI inputs: 3  
No. of Scart inputs: 2 (1 RGB)  
No. of component inputs: 1  
PC input: Yes  
Digital tuner: Yes (plus CI slot)

**Tested:** Issue 161

**For price check visit:**  
[www.techradar.com/463634](http://www.techradar.com/463634)

## Editor's Choice...

**PIONEER**  
60in → LX6090  
£4,300 Approx



Quite simply, this is the best TV in the world bar none. Its black levels are so deep and foreboding that, when the TV is on but not showing a picture, you can't see a thing in a darkened room. Nothing. It's scary! Added to that is an ability to display fine detail that many screens would struggle to compete with, and unsurpassed colour fidelity, often searing imagery on your eyeballs long after they've faded from view. Plus, the digital TV tuner provides decent SD transmissions, even when blown up to the whole 60in size. In short, this is plasma perfection.

**Tested:** Issue 159

**For price check visit:** [www.techradar.com/417196](http://www.techradar.com/417196)

### → Specifications

HD Ready: yes (up to 1080p/24)  
Native resolution: 1920 x 1080  
No. of HDMI inputs: 3 (v1.3)  
No. of Scart inputs: 3 (2 RGB)  
No. of component inputs: 1  
PC input: Yes  
Digital tuner: Yes (with CI)





# Blu-ray Players

## Best on test...



**PIONEER**  
Blu-ray → BDP-LX91  
£1,800 Approx

1 2 3 4 5

Reference status BD deck is also a first-rate CD and DVD player

**Highs:** Stunning picture; great sound; packed with features and well-designed

**Lows:** Precision Quartz Lock System works with CDs only

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (7.1)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: Yes, via Ethernet

**Tested:** Issue 167  
**For price check visit:**  
[www.techradar.com/532605](http://www.techradar.com/532605)



**SONY**  
Blu-ray → BDP-S350  
£250 Approx

1 2 3 4 5

'BD-Live Ready deck' still not quite the finished article

**Highs:** Good picture quality; decent sound; efficient DVD upscaling

**Lows:** Needs to be updated to BD-Live; DTS via bitstream only

### → Specifications

Blu-ray profile: 1.1 (2.0 via upgrade)  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (stereo only)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/No  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: Yes, via Ethernet, USB

**Tested:** Issue 161  
**For price check visit:**  
[www.techradar.com/460426](http://www.techradar.com/460426)



**LG**  
Blu-ray → BD370  
£200 Approx

1 2 3 4 5

Stylish deck with MKV talents and web features

**Highs:** Excellent Blu-ray performance; MKV playback is an unexpected bonus

**Lows:** Average DVD upscaling; no multichannel phono outs

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (stereo only)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: Yes, via Ethernet (including YouTube access), USB

**Tested:** Issue 170  
**For price check visit:**  
[www.techradar.com/596930](http://www.techradar.com/596930)



**PANASONIC**  
Blu-ray → DMP-BD80  
£350 Approx

1 2 3 4 5

Flagship 2009 deck adds YouTube fun to top-class specs

**Highs:** Full multichannel outputs; superb, detailed images; net functionality

**Lows:** Uninspired design; sluggish loading times

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (7.1)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: Ethernet, VieraCast, SD card slot, USB 2.0

**Tested:** Issue 169  
**For price check visit:**  
[www.techradar.com/592252](http://www.techradar.com/592252)



**SONY**  
Blu-ray → PlayStation3  
£300 Approx

1 2 3 4 5

This Blu-ray games console is the world's most popular player

**Highs:** Profile 2.0 via firmware update; HD gaming, fast Java

**Lows:** Awkward form factor; Blu-ray remote control costs extra £18

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/No  
DVD-A/SACD playback: No/Yes\* (\*60GB version only)  
Networkability: 6 USB, Ethernet, Memory stick, SD, wi-fi, Bluetooth

**Tested:** Issue 138  
**For price check visit:**  
[www.techradar.com/375076](http://www.techradar.com/375076)

## Editor's Choice...

**SONY**  
Blu-ray → BDP-S5000ES → £1,200 Approx

1 2 3 4 5



Sony has finally released a standalone Blu-ray deck that's comfortably better than its PlayStation 3 console. This £1,200 entry into the brand's Elevated Standard component range is a cinephile-grade machine with full Profile 2.0 support, internal decoding and bitstreaming of DTS-HD and Dolby TrueHD and best-in-class build quality. Pictures are immensely satisfying and its aural performance is exquisite. Well worth an audition if you're serious about BD.

**Tested:** Issue 166  
**For price check visit:** [www.techradar.com/503019](http://www.techradar.com/503019)

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (7.1)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No/No  
Networkability: MicroVault card slot; LAN port

## Also Recommended...



**SAMSUNG**  
Blu-ray → BD-P4600  
£260 Approx

1 2 3 4 5

Wall-mountable deck with wi-fi dongle option

**Highs:** Original styling; slim proportions; fast disc-loading; good multimedia management

**Lows:** Average DVD scaling; limited connectivity

### → Specifications

Blu-ray profile: 2.0  
DVD upscaling: Up to 1080p  
Analogue audio output: No  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: Ethernet (wi-fi dongle is optional for an extra £50) USB

**Tested:** Issue 169  
**For price check visit:**  
[www.techradar.com/592233](http://www.techradar.com/592233)



**YAMAHA**  
Blu-ray → BD-S2900  
£700 Approx

1 2 3 4 5

High-end BD debut from Yamaha lacks HD decoding

**Highs:** BD picture; build quality; CD performance; fast loading

**Lows:** DVD playback only average; noisy; not Profile 2.0

### → Specifications

Blu-ray profile: 1.1  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (5.1)  
Onboard Dolby TrueHD/DTS-HD MA decoding: No/No  
Dolby TrueHD/DTS-HD MA bitstream output: Yes/Yes  
DVD-A/SACD playback: No  
Networkability: SD card slot

**Tested:** Issue 162  
**For price check visit:**  
[www.techradar.com/467581](http://www.techradar.com/467581)



**PIONEER**  
Blu-ray → LX-01BD  
£2,000 Approx

1 2 3 4 5

Designer all-in-one system with unique 12-sided omnidirectional 41-speaker system

**Highs:** Credible picture and surround sound; iconic styling

**Lows:** Speaker position takes work; no networking

### → Specifications

Blu-ray profile: 1.1  
DVD upscaling: Up to 1080p  
Analogue audio output: Yes (but stereo only)  
Onboard Dolby TrueHD/DTS-HD MA decoding: Yes/Yes  
Dolby TrueHD/DTS-HD MA bitstream output: NA/NA  
DVD-A/SACD playback: No  
Networkability: No

**Tested:** Issue 169  
**For price check visit:**  
[www.techradar.com/592213](http://www.techradar.com/592213)



# DVD Players

## Best on test...



**OPPO**  
DVD → DV-981HD  
£180 Approx

1 2 3 4 5

Excellent multiformat player with serious upscaling chipper

**Highs:** Excellent video processing; DVD-A and SACD playback; multiregion

**Lows:** Average pics from DivX files; online purchase only

### → Specifications

Upscaling: Up to 1080p  
Multiregion: Yes  
DVD A/SACD: Both  
HDMI out: 1 (plus free cable)  
Component: No  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, DVD+R/-R, DVD+RW, DVD-RW

**Tested:** Issue 154  
**For price check visit:**  
[www.techradar.com/240790](http://www.techradar.com/240790)



**YAMAHA**  
DVD → DVD-2700  
£400 Approx

1 2 3 4 5

Universal high-end player with excellent audio and picture

**Highs:** Superb upscaling; build quality; RS232 connectivity; audio mode for CDs

**Lows:** Setup could be more intuitive v1.1 only

### → Specifications

Upscaling: Up to 1080p  
Multiregion: No  
DVD A/SACD: Both  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, DVD+R, DVD-R, DVD+RW, DVD-RW

**Tested:** Issue 145  
**For price check visit:**  
[www.techradar.com/278861](http://www.techradar.com/278861)



**PIONEER**  
DVD → DV-LX50  
£400 Approx

1 2 3 4 5

DVD component of Pioneer's LX range is a star performer

**Highs:** Fabulous build and styling; quality upscaled picture and audio performance

**Lows:** Complex onscreen display

### → Specifications

Upscaling: Up to 1080p  
Multiregion: No  
DVD A/SACD: Both  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, XviD, DVD+R/-R, DVD+RW, DVD-RW

**Tested:** Issue 156  
**For price check visit:**  
[www.techradar.com/248240](http://www.techradar.com/248240)



**DENON**  
DVD → DVD-1940  
£250 Approx

1 2 3 4 5

Yet another quality upscaling deck from Denon

**Highs:** 1080p upscaling is tidy; SD performance is good too; wide format compatibility

**Lows:** Bland styling; stereo performance could be better

### → Specifications

Upscaling: Up to 1080p  
Multiregion: No  
DVD A/SACD: Both  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, DVD+R/-R, DVD+RW, DVD-RW

**Tested:** Issue 156  
**For price check visit:**  
[www.techradar.com/365528](http://www.techradar.com/365528)



**CAMBRIDGE AUDIO**  
DVD → Azur 540D  
£600 Approx (with amp)

1 2 3 4 5

Superb DVD partner for the brand's Azur amp range

**Highs:** Sturdy build quality married with smooth, colourful upscaled pictures

**Lows:** No hi-res audio playback or 1080p upscaling

### → Specifications

Upscaling: UP to 1080i  
Multiregion: No  
DVD A/SACD: No  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, DVD+R/-R, DVD+RW, DVD-RW

**Tested:** Issue 147  
**For price check visit:**  
[www.techradar.com/126088](http://www.techradar.com/126088)

## Also Recommended...



**ONKYO**  
DVD → DV-SP406  
£100 Approx

1 2 3 4 5

Quality upscaling at an affordable price

**Highs:** Picture quality mainly; front-mounted USB jack for multimedia playback

**Lows:** Bland looks and unimpressive build quality

### → Specifications

Upscaling: Up to 1080i  
Multiregion: No  
DVD A/SACD: No  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, MPEG-4, CD-R, CD-RW, DivX, DVD+R/-R, DVD+RW, DVD-RW

**Tested:** Issue 168  
**For price check visit:**  
[www.techradar.com/586445](http://www.techradar.com/586445)



**ARCAM**  
DVD → DV-135  
£900 Approx

1 2 3 4 5

Universal deck that takes DVD as far as it can go. Nearly

**Highs:** 720p upscaling and CD performance

**Lows:** No multichannel output for SACD/DVD-A, no 1080p output mode

### → Specifications

Upscaling: Up to 1080i  
Multiregion: No  
DVD A/SACD: Both, stereo only  
HDMI out: 1  
Component: 1  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: CD, MP3, WMA, JPEG, CD-R, CD-RW, DivX, HDCD, DVD+R/-R, DVD-RW, and DVD+RW

**Tested:** Issue 149  
**For price check visit:**  
[www.techradar.com/283946](http://www.techradar.com/283946)



**LG**  
DVD → DVS450H  
£100 Approx

1 2 3 4 5

Stylish wall-mountable deck with USB and DivX HD support

**Highs:** Solid DVD playback; eye-catching design; DivX HD performance is startling

**Lows:** Can't be rack-mounted; not DTS decoding

### → Specifications

Upscaling: Up to 1080p  
Multiregion: No  
DVD A/SACD: No  
HDMI out: 1  
Component: 1  
RGB Scart: No  
Onboard decoding: Dolby Digital  
Other formats: CD, MP3, JPEG, MPEG-4, MPEG-4 HD, CD-R, CD-RW, DivX, DivX HD, DVD+R/-R, DVD+/-RW

**Tested:** Issue 167  
**For price check visit:**  
[www.techradar.com/492983](http://www.techradar.com/492983)

## Editor's Choice...

**TOSHIBA**  
DVD → XDE-500 → £130 Approx

1 2 3 4 5

Having crashed and burned with HD DVD, Toshiba is fighting back with this revolutionary upscaling DVD player. Powered by the brand's new, super-powered eXtended Detail Enhancement (XDE) technology, it breathes new life into standard DVDs – of which most of us have many. Build quality is a little lacking (reflecting the bargain price) but otherwise this is an easy product to recommend – it's like Viagra for DVDs!

**Tested:** Issue 161  
**For price check visit:** [www.techradar.com/460536](http://www.techradar.com/460536)



### → Specifications

Upscaling: Up to 1080p  
Multiregion: No, but hackable  
DVD A/SACD: Nope  
HDMI out: 1  
Component: 1 (480/576 only)  
RGB Scart: 1  
Onboard decoding: Dolby Digital, DTS  
Other formats: DVD-R/DVD-RW/CD/CD-R/CD-RW/CD, MP3, JPEG, DivX, XviD



# DVD Recorders

## Best on test...



**SONY**  
DVDR → RDR-HXD995  
£250 Approx

1 2 3 4 5

Heavyweight Freeview+ unit with features galore

**Highs:** Excellent AV performance; flexible recording modes; multimedia prowess

**Lows:** Records 'interactive red dot'; possible aerial sensitivity

### → Specifications

Hard disk: 250GB  
Upscaling: 1080p  
HDMI: 1  
Component video: Yes (progressive)  
RGB Scart in: Yes  
Camcorder input: Yes  
Tuner: Yes. Digital & Analogue  
Format: -R/RW, +R/RW  
Dual layer recording: Yes

**Tested:** Issue 165

**For price check visit:**

[www.techradar.com/494543](http://www.techradar.com/494543)



**PANASONIC**  
DVDR → MR-EX79  
£300 Approx

1 2 3 4 5

2009 DVD/HDD recorder improves slightly on the EX78

**Highs:** AV performance is first-rate; heaps of features and recording flexibility

**Lows:** No STB control; can't copy DivX/PEG to HDD

### → Specifications

Hard disk: 250GB  
Upscaling: 1080p  
HDMI: 1  
Component video: Yes (progressive)  
RGB Scart in: Yes  
Camcorder input: Yes  
Tuner: Yes. Digital  
Format: -R/RW, +R/RW, -RAM  
Dual layer recording: Yes

**Tested:** Issue 169

**For price check visit:**

[www.techradar.com/592255](http://www.techradar.com/592255)



**PIONEER**  
DVDR → DVR-560HX  
£400 Approx

1 2 3 4 5

Full PC-linked multimedia jukebox and DVD/HDD unit

**Highs:** Excellent AV performance and features spread; networkability

**Lows:** Jukebox abilities reliant on Windows Media Player

### → Specifications

Hard disk: 160GB  
Upscaling: 1080p  
HDMI: 1  
Component video: Yes (progressive)  
RGB Scart in: Yes  
Camcorder input: Yes  
Tuner: Yes. Digital & analogue  
Format: -R/RW, +R/RW, -RAM  
Dual layer recording: Yes

**Tested:** Issue 159

**For price check visit:**

[www.techradar.com/417978](http://www.techradar.com/417978)



**LG**  
DVDR/3.1 → HRT403DA  
£500 Approx

1 2 3 4 5

Convergence king offers 3.1 audio and HDD/DVD recording

**Highs:** Acceptable, punchy audio; well-specified recorder; quality DVD pictures

**Lows:** Lacks DTS support; no 5.1 upgrade path

### → Specifications

Hard disk: 160GB  
Upscaling: 1080p  
HDMI: 1  
Component video: Yes (progressive)  
RGB Scart in: Yes  
Camcorder input: Yes  
Tuner: Yes. Digital & Analogue  
Format: -R/RW, +R/RW, -RAM  
Dual layer recording: Yes

**Tested:** Issue 165

**For price check visit:**

[www.techradar.com/490848](http://www.techradar.com/490848)



**PANASONIC**  
DVD/BDR → DMR-BS850  
£1,000 Approx

1 2 3 4 5

Blu-ray/DVD/Freesat/HDD recorder is a convergence king

**Highs:** Amazingly versatile; superb BD record quality; twin Freesat tuners; Viera Cast

**Lows:** AVCHD dubs to DVD in SD; premium price tag

### → Specifications

Hard disk: 500GB  
Upscaling: 1080p  
HDMI: 1  
Component video: Yes (progressive)  
RGB Scart in: Yes  
Camcorder input: Yes  
Tuner: Yes. 2 x Freesat HD  
Format: BD-RE, BD-R, DVD-R/RW, +R/RW, -RAM  
Dual-layer recording: Yes

**Tested:** Issue 170

**For price check visit:**

[www.techradar.com/599118](http://www.techradar.com/599118)



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# PVRs

## Best on test...



**GOODMANS**  
PVR → GHD2521F2  
£130 Approx

1 2 3 4 5

Budget-priced twin-tuner Freeview+ PVR with 250GB of hard disk storage

**Highs:** Superb GUI; competent AV performance and large HDD

**Lows:** No upgrade path for pay-TV. Some editing glitches

### → Specifications

HDD size: 250GB  
Twin tuners: Yes  
Component output: No  
RGB Scart: Yes  
CI-slot: No  
Digital tuner: Freeview  
Freeview+: Yes

**Tested:** Issue 159  
**For price check visit:**  
[www.techradar.com/418531](http://www.techradar.com/418531)



**HUMAX**  
PVR → PVR-9300T  
£200 Approx

1 2 3 4 5

Souped-up Humax drops USB socket but boosts HDD capacity

**Highs:** Easy and responsive to use; fine AV performance; well-featured

**Lows:** Limited HDMI modes; no USB functionality

### → Specifications

HDD size: 320GB  
Twin tuners: Yes  
Component output: Yes  
RGB Scart: Yes  
CI-slot: Yes  
Digital tuner: Freeview  
Freeview+: Yes

**Tested:** Issue 162  
**For price check visit:**  
[www.techradar.com/460642](http://www.techradar.com/460642)



**SAGEM**  
PVR → DTR 64160T  
£100 Approx

1 2 3 4 5

160GB Freeview+ PVR with nifty USB powers

**Highs:** Transport stream recordings are high quality; archiving to USB stick or external drive

**Lows:** Won't record radio

### → Specifications

HDD size: 160GB  
Twin tuners: Yes  
Component output: Yes  
RGB Scart: Yes  
CI-slot: No  
Digital tuner: Freeview  
Freeview+: Yes

**Tested:** Issue 166  
**For price check visit:**  
[www.techradar.com/503202](http://www.techradar.com/503202)



**HUMAX**  
Freesat PVR → Foxsat HDR  
£300 Approx

1 2 3 4 5

First Freesat HD PVR brings extra clout to fledgling system

**Highs:** Cinch to operate; good performance; ITV in HD; JPEG/MP3 playback

**Lows:** Annoying LCD; slow to boot up; needs more HD content!

### → Specifications

HDD size: 320GB  
Twin tuners: Yes  
Component output: No  
RGB Scart: Yes  
CI-slot: Yes  
Tuner: Freesat HD (satellite – requires dish)  
Freeview+: No

**Tested:** Issue 165  
**For price check visit:**  
[www.techradar.com/489319](http://www.techradar.com/489319)



**TOPFIELD**  
PVR → TF5810PVR  
£350 Approx

1 2 3 4 5

Freeview+ PVR with enormous 500GB HDD

**Highs:** Easy to use; PC connectivity; upscales Freeview; twin tuners offer great flexibility

**Lows:** Competing with high-end DVD recorders

### → Specifications

HDD size: 500GB  
Twin tuners: Yes  
Component output: No  
RGB Scart: Yes  
CI-slot: Yes  
Digital tuner: Freeview  
Freeview+: Yes

**Tested:** Issue 156  
**For price check visit:**  
[www.techradar.com/262044](http://www.techradar.com/262044)

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# AV Receivers

## Best on test...



**DENON**  
AVR → AVC-A1HD  
£3,800 Approx

1 2 3 4 5

Denon's flagship AVR is a serious challenger to Yamaha's DSP-Z11 and Pioneer's Susano

**Highs:** Prodigiously powerful; flexible; superb build quality  
**Lows:** Lacks THX Ultra2 Plus; GUI could be more refined

### → Specifications

Power output: 7 x 150W  
Upscaling via HDMI: Yes  
Tuner: No  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes, and 3 & 4  
Serial port control: Yes, 2  
THX certification: Ultra2  
Component input: 6  
HDMI: 6-in, 2-out (v1.3)  
Multichannel input: Yes (9.3)

**Tested:** Issue 158  
**For price check visit:**  
[www.techradar.com/381592](http://www.techradar.com/381592)



**SONY**  
AVR → STR-DA5400ES  
£1,500 Approx

1 2 3 4 5

Class-leading mid-priced AVR with power and poise

**Highs:** Excellent build; audiophile SACD and CD playback; full of power  
**Lows:** No Ethernet port, THX certification or DAB radio

### → Specifications

Power output: 7 x 130W  
Upscaling to HDMI: Yes, 1080p  
Tuner: Yes (AM/FM)  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes  
Serial port control: No  
THX certification: No  
Component input: 2  
HDMI: 5-in, 1-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 166  
**For price check visit:**  
[www.techradar.com/503066](http://www.techradar.com/503066)



**ONKYO**  
AVR → TX-SR607  
£500 Approx

1 2 3 4 5

Mid-range HD receiver with Dolby 'Height' processing

**Highs:** Excellent OSD; lengthy feature set; twin subwoofer outputs  
**Lows:** Dolby Pro Logic IIz is a bit of a gimmick

### → Specifications

Power output: 7 x 145W  
Upscaling via HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes  
Serial port control: Yes  
THX certification: Select2 Plus  
Component input: 2  
HDMI: 4-in, 1-out (v1.3)  
Multichannel input: No

**Tested:** Issue 170  
**For price check visit:**  
[www.techradar.com/596948](http://www.techradar.com/596948)



**HARMAN KARDON**  
AVR → AVR 255  
£600 Approx

1 2 3 4 5

Affordable HK unit with HD audio and 1080p chops

**Highs:** Great looks; power rates better than quoted specs  
**Lows:** A little warm-sounding; no backlight on remote

### → Specifications

Power output: 7 x 50W  
Upscaling via HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes  
Serial port control: Yes  
THX certification: No  
Component input: 2  
HDMI: 3-in, 1-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 165  
**For price check visit:**  
[www.techradar.com/495341](http://www.techradar.com/495341)



**DENON**  
AVR → AVR-2309  
£600 Approx

1 2 3 4 5

Mid-range HD audio unit lacks networking but sounds superb

**Highs:** Fabulous balance with HD audio; punchy sound with CDs; powerful  
**Lows:** No networking and only 1 HDMI output

### → Specifications

Power output: 7 x 100W  
Upscaling via HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes  
Serial port control: Yes  
THX certification: No  
Component input: 3  
HDMI: 4-in, 1-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 162  
**For price check visit:**  
[www.techradar.com/466939](http://www.techradar.com/466939)

## Editor's Choice...

**PIONEER**  
AVR → SC-LX81  
£1,500 Approx

1 2 3 4 5

Derived from the brand's flagship Susano amp, but ultimately a more practical and affordable option, the £1,500 THX-certified and AIR Studios-graded Pioneer SC-LX81 receiver is built like a tank, styled like a supermodel and crammed with genius features (ICEpower technology, 9-band Advanced MCACC system, LAN interface and Advanced Sound Retriever to name a few). It sounds stunning, too, and our Tech Labs rated its power performance as excellent in all regards.

**Tested:** Issue 167  
**For price check visit:** [www.techradar.com/532595](http://www.techradar.com/532595)

### → Specifications

Power output: 7 x 190W  
Upscaling to HDMI: Yes  
Tuner: Yes  
Dolby TrueHD/DTS-HD: Yes/Yes  
Zone 2: Yes and Zone 3  
Serial port control: Yes  
THX certification: Yes – THX Ultra2 Plus  
Component input: 3  
HDMI: 4-in, 2-out (v1.3)  
Multichannel input: Yes (7.1)



## Also Recommended...



**YAMAHA**  
AVR → RX-V3900  
£1,500 Approx

1 2 3 4 5

7.1-channel mid-ranger lacks video networking and THX badge, but sounds fantastic

**Highs:** Dynamic, exciting sound; well-connected  
**Lows:** Networked media player audio-only

### → Specifications

Power output: 7 x 140W  
Upscaling to HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: No  
Serial port control: Yes  
THX certification: No  
Component input: 3  
HDMI: 4-in, 2-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 168  
**For price check visit:**  
[www.techradar.com/579879](http://www.techradar.com/579879)



**ONKYO**  
AVR → TX-NR906  
£1,400 Approx

1 2 3 4 5

THX Ultra2 Plus AVR with ISF tweakery is Onkyo's flagship

**Highs:** Powerful; superb video processor; full-on up front sound; networkability  
**Lows:** Operational issues; build quality could be better

### → Specifications

Power output: 7 x 200W  
Upscaling via HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes and 3  
Serial port control: Yes  
THX certification: Ultra2 Plus  
Component input: 3  
HDMI: 6-in, 2-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 164  
**For price check visit:**  
[www.techradar.com/476747](http://www.techradar.com/476747)



**ONKYO**  
AVR → TX-SR706  
£600 Approx

1 2 3 4 5

Affordable THX Select2 Plus receiver rammed with features

**Highs:** Subtle, expressive sound quality; Audyssey Dynamic EQ/MultEQ  
**Lows:** Punchy but not a powerhouse

### → Specifications

Power output: 7 x 160W  
Upscaling via HDMI: Yes  
Tuner: Yes  
Dolby TrueHD: Yes  
DTS-HD: Yes  
Zone 2: Yes  
Serial port control: Yes  
THX certification: Select2 Plus  
Component input: 2  
HDMI: 4-in, 1-out (v1.3)  
Multichannel input: Yes (7.1)

**Tested:** Issue 163  
**For price check visit:**  
[www.techradar.com/476714](http://www.techradar.com/476714)



# Projectors

## Best on test...



**SIM2**  
DLP → Grand Cinema  
C3X 1080  
£23,000 Approx

1 2 3 4 5

Reference-status PJ with brilliant colour management

**Highs:** Gorgeous design; small form factor; dazzling pictures

**Lows:** SD processing isn't quite hi-end enough for the price

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: Yes (D-Sub)  
Brightness (claimed): NA  
Contrast (claimed): 10,000:1  
Lamp life (claimed): 2,000 hours  
Fan noise: NA  
24fps: Yes

**Tested:** Issue 169  
**For price check visit:**  
[www.techradar.com/591731](http://www.techradar.com/591731)



**SONY**  
SXR D → VPL-VW80  
£5,000 Approx

1 2 3 4 5

Sony's SXR D technology continues to dazzle

**Highs:** Pictures are near faultless; features galore; runs quietly; sky high contrast ratio

**Lows:** Motion Enhancement system needs work

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: Yes (D-Sub)  
Brightness (claimed): 800 ANSI lumens  
Contrast (claimed): 60,000:1  
Lamp life (claimed): 3,000 hours  
Fan noise: 20dB  
24fps: Yes

**Tested:** Issue 164  
**For price check visit:**  
[www.techradar.com/487460](http://www.techradar.com/487460)



**JVC**  
D-ILA → HD350  
£3,500 Approx

1 2 3 4 5

Fantastically filmic PJ is a steal at £3,500

**Highs:** Stunning picture quality; runs quietly; easy and flexible to setup

**Lows:** No direct PC hookup; DLP rivals may be brighter

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: Only by HDMI  
Brightness (claimed): 1,000 ANSI lumens  
Contrast (claimed): 30,000:1  
Lamp life (claimed): 2,000 hours  
Fan noise: 19dB  
24fps: Yes

**Tested:** Issue 167  
**For price check visit:**  
[www.techradar.com/532631](http://www.techradar.com/532631)



**INFOCUS**  
DLP → IN83  
£3,900 Approx

1 2 3 4 5

UK debut of DLP DarkChip4 technology

**Highs:** Groundbreaking black levels and colour fidelity at this price point

**Lows:** Rainbow effect may distract; quite a noisy runner

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2 (1 via MI-DA adaptor)  
Component inputs: 1  
PC compatibility: via MI-DA  
Brightness (claimed): 1600  
Contrast (claimed): 15,000:1  
Lamp life (claimed): 2,500 hours  
Fan noise: 30dB  
24fps: Yes

**Tested:** Issue 161  
**For price check visit:**  
[www.techradar.com/463009](http://www.techradar.com/463009)



**PANASONIC**  
LCD → PT-AE3000  
£2,200 Approx

1 2 3 4 5

Excellent all-rounder packed with user-friendly features

**Highs:** Good black level, contrast and colours; flexibility; quiet running

**Lows:** Needs tweaking for best results; no 12V trigger

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 3  
Component inputs: 2  
PC compatibility: Yes (D-Sub)  
Brightness (claimed): 1,600 ANSI lumens  
Contrast (claimed): 60,000:1  
Lamp life (claimed): 2,000 hours  
Fan noise: 22dB  
24fps: Yes

**Tested:** Issue 166  
**For price check visit:**  
[www.techradar.com/503174](http://www.techradar.com/503174)

## Also Recommended...



**SONY**  
SXR D → HW10  
£1,500 Approx

1 2 3 4 5

Full HD at a great price from this entry-level Bravia

**Highs:** Superb film-like picture quality; excellent build; virtually no fan noise

**Lows:** On the large side; moderate lamp brightness

### Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: Yes (VGA)  
Brightness (claimed): 1,000 ANSI lumens  
Contrast (claimed): 30,000:1  
Lamp life (claimed): 2,000 hours (5,000 eco)  
Fan noise: 22dB  
24fps: Yes

**Tested:** Issue 163  
**For price check visit:**  
[www.techradar.com/460300](http://www.techradar.com/460300)



**SANYO**  
LCD → PLV-Z3000  
£2,000 Approx

1 2 3 4 5

Solid HD performer with a few minor niggles

**Highs:** Flexible lens settings; quiet operation; tasty price  
**Lows:** Lacks basic niceties like a 12V trigger and remote focus; black levels aren't best in class

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 2  
PC compatibility: Yes (D-Sub)  
Brightness (claimed): 1,600 ANSI lumens  
Contrast (claimed): 65,000:1  
Lamp life (claimed): N/A  
Fan noise: 19dB  
24fps: Yes

**Tested:** Issue 167  
**For price check visit:**  
[www.techradar.com/532622](http://www.techradar.com/532622)



**PLANAR**  
DLP → PD8150  
£4,400 Approx

1 2 3 4 5

Premium custom install DLP projector with great contrast

**Highs:** Excellent picture quality; ISF calibration mode  
**Lows:** No electronic keystone correction; traces of rainbow effect

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: Only by HDMI  
Brightness (claimed): 1,000 ANSI lumens  
Contrast (claimed): 15,000:1  
Lamp life (claimed): 4,000 hours  
Fan noise: NA  
24fps: Yes

**Tested:** Issue 158  
**For price check visit:**  
[www.techradar.com/383239](http://www.techradar.com/383239)

## Editor's Choice...

**EPSON**  
LCD → EH-TW3800  
£2,000 Approx

1 2 3 4 5



Ideal for movies, sports, TV and gaming, Epson's high-value EH-TW3800 is a flawless example of cutting-edge 1080p LCD projection technology. Priced at £2,000, it offers a superb picture and boasts easy setup, high dynamic contrast ratio, great connectivity (including twin HDMI) and ISF calibration. It's deadly quiet in operation, and looks classy, too. Proof, if it were needed, that Epson knows a thing or two about making high-quality HD projectors. Those with bigger wallets might want to check out the step-up EH-TW5800 as well.

**Tested:** Issue 167  
**For price check visit:** [www.techradar.com/527031](http://www.techradar.com/527031)

### → Specifications

1920 x 1080 resolution  
HDMI inputs: 2  
Component inputs: 1  
PC compatibility: VGA  
Brightness (claimed): 1,800 ANSI lumens  
Contrast (claimed): 18,000:1  
Lamp life (claimed): 4,000 hours  
Fan noise: 22dB  
24fps: Yes



# Subwoofers

## Best on test...



**BK**  
SW → XLS200  
£290 Approx

1 2 3 4 5

10in driver married to high- and line-level inputs

**Highs:** Deep and extended output; disproportionately powerful; compact  
**Lows:** Bland styling

### → Specifications

Frequency response: 22Hz-100Hz (claimed)  
Amplifier: 275W  
Driver: 10in  
Weight: 12.7kg  
Enclosure: Sealed  
On-board equaliser: No  
Remote control: No

**Tested:** Issue 151  
**For price check visit:**  
[www.techradar.com/249083](http://www.techradar.com/249083)



**MARTINLOGAN**  
SW → Descent I  
£3,250 Approx

1 2 3 4 5

Weapons-grade unit with 3 x 10in woofers

**Highs:** Superb engineering; Reference standard performance  
**Lows:** Bulky and premium-priced; no automated setup

### → Specifications

Frequency response: 18Hz-120Hz (claimed)  
Amplifier: 500W  
Driver: 3 x 10in  
Weight: 47.7kg  
Enclosure: Sealed  
On-board equaliser: No  
Remote control: No

**Tested:** Issue 167  
**For price check visit:**  
[www.techradar.com/532655](http://www.techradar.com/532655)



**BOWERS & WILKINS**  
SW → ASW608  
£300 Approx

1 2 3 4 5

Compact subwoofer ideal for smaller rooms

**Highs:** Excellent grip and musical low-end control  
**Lows:** Limited by its size

### → Specifications

Frequency response: 23Hz-140Hz (claimed)  
Amplifier: 200W  
Driver: 8in  
Weight: 8.85kg  
Enclosure: Sealed  
On-board equaliser: Yes  
Remote control: No

**Tested:** Issue 160  
**For price check visit:**  
[www.techradar.com/423217](http://www.techradar.com/423217)



**VELODYNE**  
SW → DD-10  
£1,900 Approx

1 2 3 4 5

We love the see-thru version of this excellent bass shifter

**Highs:** Thrilling performance, special edition finishes  
**Lows:** You can get more muscle for the money

### → Specifications

Frequency response: 18-120Hz (claimed)  
Amplifier: 1,250W  
Driver: 10in  
Weight: 26kg  
Enclosure: Sealed  
On-board equaliser: Yes  
Remote control: Yes

**Tested:** Issue 158  
**For price check visit:**  
[www.techradar.com/381347](http://www.techradar.com/381347)



**VELODYNE**  
SW → SPL-1000 Ultra  
£1,100 Approx

1 2 3 4 5

Small-form sub with potent amplification

**Highs:** Power, grip and melodic control; attractive design  
**Lows:** Struggles with very deep sub-sonics

### → Specifications

Frequency response: 23-120Hz (claimed)  
Amplifier: 1,200W  
Driver: 12in  
Weight: 20kg  
Enclosure: Sealed  
On-board equaliser: Yes  
Remote control: Yes

**Tested:** Issue 168  
**For price check visit:**  
[www.techradar.com/581160](http://www.techradar.com/581160)

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# Speaker Systems

## Best on test...



### ACOUSTIC ENERGY

7.2 → Aegis Neo  
£1,850 Approx

1 2 3 4 5

Excellent 7.2 speaker array at a bargain price

**Highs:** Excellent build quality; genuine synergy across the soundstage and effortless might

**Lows:** For dedicated home cinema rooms only; music comes second best

#### → Specifications

Power handling: 6 x 170, 1 x 120W  
Rears: Direct radiating  
Subwoofer: 2 x 200W  
Finish: Wood; Bookshelf: No

**Tested:** Issue 161

**For price check visit:**  
[www.techradar.com/464451](http://www.techradar.com/464451)



### PIONEER

5.1 → EX Series  
£11,000 Approx

1 2 3 4 5

A stunning 5.1 system to match the brand's high-quality components

**Highs:** Breathtaking accuracy; beautiful imagery and detail; sexy design and solid build

**Lows:** Demands specific room placement

#### → Specifications

Power handling: 5 x 160W, Rears: Direct radiating  
Subwoofer: 250W  
Finish: Gloss; Bookshelf: Rears (at a stretch...)

**Tested:** Issue 170

**For price check visit:**  
[www.techradar.com/597086](http://www.techradar.com/597086)



### CABASSE

5.1 → EOLE 2  
£1,200 Approx

1 2 3 4 5

Quirky-looking 5.1 sub/sat system

**Highs:** Design and build; flexible mounting; warm, involving voice

**Lows:** Slightly rough high frequencies; power handling disappoints; limited bass

#### → Specifications

Power handling: 5 x 70W, 4 x 100W  
Rears: Direct radiating  
Subwoofer: 250W  
Finish: Gloss; Bookshelf: Yes

**Tested:** Issue 169

**For price check visit:**  
[www.techradar.com/591911](http://www.techradar.com/591911)



### TEUFEL

5.1 → System 9  
€4,400 Approx

1 2 3 4 5

Potent THX Ultra2-system with industrial styling and build

**Highs:** Great bass extension; huge scale and accuracy; pleasing to look at, too

**Lows:** Stands or wall bracket fittings are extra; subwoofer is huuuuuge!

#### → Specifications

Power handling: 3 x 240W, 1 x 180W  
Rears: Dipole  
Subwoofer: 700W  
Finish: Alu; Bookshelf: No

**Tested:** Issue 166

**For price check visit:**  
[www.techradar.com/502870](http://www.techradar.com/502870)



### MISSION

5.1 → 79 Series  
£2,400 Approx

1 2 3 4 5

Floor-standing system with innovative side-firing bass drivers

**Highs:** Sophisticated and clean-sounding; excellent stereo imagery; easy on the eye

**Lows:** Not the most powerful or deepest bass in its class; won't go super-loud

#### → Specifications

Power handling: 5 x 200W  
Rears: Direct radiating  
Subwoofer: 300W  
Finish: Gloss; Bookshelf: Rears only

**Tested:** Issue 171

**For price check visit:**  
[www.techradar.com/605119](http://www.techradar.com/605119)

## Also Recommended...



### JAMO

5.1 → A 102 HCS 5  
£330 Approx

1 2 3 4 5

Good-value 5.1 system with living-room-friendly size/looks

**Highs:** Relaxed, intelligible dialogue presentation; available online for as little as £200

**Lows:** Subwoofer lacks real subterranean power; small satellites lend a rawness to the audio

#### → Specifications

Power handling: 5 x 60W  
Rears: Direct radiating  
Subwoofer: 200W  
Finish: Cherry; Bookshelf: No

**Tested:** Issue 170

**For price check visit:**  
[www.techradar.com/597043](http://www.techradar.com/597043)



### KEF

7.1 → Q Series  
£2,000 Approx

1 2 3 4 5

Classy-looking 7.1 set with a penchant for music and movies

**Highs:** Seamless integration from UniQ speakers; crystal clear high-end

**Lows:** Floorstanders need a lot of breathing space

#### → Specifications

Power handling: 4 x 130W, 2 x 100W, 1 x 150  
Rears: Direct radiating  
Subwoofer: 250 RMS  
Finish: Wood; Bookshelf: No

**Tested:** Issue 166

**For price check visit:**  
[www.techradar.com/502987](http://www.techradar.com/502987)



### MJ ACOUSTICS

5.1 → Xeno  
£800 Approx

1 2 3 4 5

Stylish 5.1 sub/sat system with remarkable voice

**Highs:** Compact design; strong centre channel; feisty, versatile subwoofer

**Lows:** Lacks the scale of dispersion required for larger rooms

#### → Specifications

Power handling: 4 x 100W, 1 x 120W  
Rears: Direct radiating  
Subwoofer: 120W  
Finish: Gloss; Bookshelf: Yes

**Tested:** Issue 161

**For price check visit:**  
[www.techradar.com/423010](http://www.techradar.com/423010)

## Editor's Choice...

### KEF

7.2 → Reference  
£40,000 Approx

1 2 3 4 5

If we were planning a once-in-a-lifetime home cinema, we'd have this £40k KEF system on our list. Everything from the build quality and luxurious black finish to the 7.2 performance is awe-inspiring.

The array is underpinned by twin 1,000W, 18in subwoofers – and even the floorstanding L/R units tout three 10in drivers – but KEF's UniQ tweeter wizardry means high-frequency detail is captured and dispersed in all its glory. The Reference system is subtle, detailed, incredibly intricate and yet able to reproduce explosions with a visceral grip that pressurises your entire world. Musicianship and mayhem all at once – and worth every penny.

**Tested:** Issue 165

**For price check visit:** [www.techradar.com/496220](http://www.techradar.com/496220)

#### → Specifications

Power handling: 3 x 150W, 4 x 100W  
Rears: Direct radiating  
Subwoofer: 2 x 1,000W (power from separate amp unit)  
Finish: Gloss  
Bookshelf: No



# Essentials

## Best on test...



**SONOS**  
Music Streamer  
BU150 Bundle → £700  
Approx (plus subs)

1 2 3 4 5

High-end multiroom music streaming package

**Highs:** Additional £10 per month Napster sub gives you instant access to over 5 million regularly updated songs

**Lows:** No iTunes DRM support

### → Specifications

55W per-channel stereo amplification  
Ethernet in/out  
Digital/analogue outputs  
Supported formats: MP3, WMA, AAC, Ogg, Vorbis, Audible, Apple Lossless, FLAC music files, WAV, AIFF

**Tested:** Issue 161

**For price check visit:**

[www.techradar.com/464530](http://www.techradar.com/464530)



**LOGITECH**  
Remote control  
Harmony 1100  
£350 Approx

1 2 3 4 5

Upgrade from the 1000 adds new software, GUI and layout

**Highs:** Massive, and expanding, online database of control codes; macro setup; user-friendly

**Lows:** RF control is only available as an extra

### → Specifications

3.5in colour touchscreen  
Lithium-ion battery  
Charging station  
USB cable  
Quick-start guide  
AC adapter

**Tested:** Issue 168

**For price check visit:**

[www.techradar.com/586508](http://www.techradar.com/586508)



**POPCORN HOUR**  
NAS media streamer  
A-110 → £260 Approx

1 2 3 4 5

A flexible multimedia streamer with an online cult following...

**Highs:** Quiet in use; insanely versatile; extensive connections; HD streaming works well

**Lows:** Simple construction; inadequate manual

### → Specifications

256MB DDR SDRAM; 32MB Flash memory  
NAS access: SMB, NFS, FTP  
Dolby TrueHD and DTS-HD audio passthrough  
Extensive file support

**Tested:** Issue 169

**For price check visit:**

[www.techradar.com/592095](http://www.techradar.com/592095)



**LACIE**  
HD media centre  
La Cinema Black  
Max → £390 Approx

1 2 3 4 5

Sleek-looking media server with PVR functionality

**Highs:** Excellent AV performance; clear and intuitive menus; compatible with a huge range of media

**Lows:** Quite an expensive way to do what it does

### → Specifications

500GB HDD  
1080i upscaling of SD movies  
DVB-T tuner  
MPEG-1, MPEG-2 / HD, MPEG-4, DIVX, XVID, H.264 HD, WMV9 HD video codec support

**Tested:** Issue 170

**For price check visit:**

[www.techradar.com/599128](http://www.techradar.com/599128)



**LG**  
All-in-one-system → HT953TV  
£700 Approx

1 2 3 4 5

Mr Mark Levinson-tuned solution with 10.1 virtual surround

**Highs:** Elegant speaker design; HDMI input for Blu-ray; powerful 5.1 surround sound

**Lows:** Sounds a little compressed in stereo; cabinets are plastic

### → Specifications

1,000W claimed power output  
Dolby 5.1, Pro-LogicII, DTS 5.1, ES decoders  
USB Host  
HDMI: 1 in, 1 out  
1080p upscaling  
FM tuner

**Tested:** Issue 163

**For price check visit:**

[www.techradar.com/476886](http://www.techradar.com/476886)

## Also Recommended...



**HAUPPAUGE**  
PVR → HD PVR  
£150 Approx

1 2 3 4 5

Back up your Sky+ HD box via component

**Highs:** Supplied with comprehensive software suite

**Lows:** No built-in storage; requires powerful PC

### → Specifications

USB: Yes – use this to hookup to your PC  
Component, S-video, stereo and optical digital audio (use the latter for recording Dolby Digital 5.1)

**Tested:** Issue 165

**For price check visit:**

[www.techradar.com/490892](http://www.techradar.com/490892)



**LOGITECH**  
Streamer → Squeezebox  
Boom → £200 Approx

1 2 3 4 5

Wi-fi enabled music streamer doubles as a clock radio

**Highs:** Looks and sounds great; 30W onboard amplification

**Lows:** Software installation required

### → Specifications

0.75in tweeter and 3in long-throw woofer  
Stereo XL™ technology  
7-day alarm clock  
Infrared remote control  
Built-in 802.11g wireless  
MP3, AAC, WMA, Ogg, FLAC, WMA, WAV, and AIFF support

**Tested:** Issue 164

**For price check visit:**

[www.techradar.com/487532](http://www.techradar.com/487532)



**SHARKOON**  
Gaming Headphones  
X-tatic → £110 Approx

1 2 3 4 5

Dolby Digital 5.1 cans add another level to gaming

**Highs:** Creates truly immersive audio and a believable bubble of sound; comfortable to wear

**Lows:** No wireless option

### → Specifications

8 speakers (4 in each earpiece)  
PS3, Xbox and Xbox 360 chat function  
Sound control unit: 1 x optical input; 2 x analogue audio; 3 x analogue 3.5 mm audio outputs; DD 2.0, 5.1 and Pro-Logic decoders

**Tested:** Issue 169

**For price check visit:**

[www.techradar.com/592328](http://www.techradar.com/592328)

## Editor's Choice...

**IOMEGA**  
NAS storage  
StorCenter IX2  
£320

1 2 3 4 5

This diminutive 2TB NAS device from Iomega (with painless installation, two-disk RAID array, USB 2.0 ports and Bluetooth connectivity) makes PC backup and network media distribution a doddle. And it looks sexy, too.



**Tested:** Issue 167

**For price check visit:**

[www.techradar.com/532738](http://www.techradar.com/532738)

### → Specifications

2TB capacity  
Windows PC, Mac OS and Linux compatible  
Two USB 2.0 ports (host, to connect external HDD or printers)  
10/100/1000Mbps Ethernet connection

## Top Five Blu-rays

Got a Blu-ray player? Then get these titles...

**Sin City** Extras-packed BD with demo-worthy AV 1 2 3 4 5

**Slumdog Millionaire** Oscar-winner with a brilliant 5.1 DTS-HD mix 1 2 3 4 5

**The Good, the Bad and the Weird** Brilliant Korean western on a cracking BD 1 2 3 4 5

**Hellboy II: The Golden Army** The 7.1 HD audio track rocks! 1 2 3 4 5

**Akira** US import with mindblowing 24/192kHz TrueHD 1 2 3 4 5





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Which way would you like to see your movies at home? Whichever way you choose, Peter Tyson & Newcastle HIFI have all the answers, and will guide you through the various options available. We now have on permanent demonstration full 1080p Hi-Definition images and stunning sound from some of the worlds finest manufacturers.

**2008 Award Winner**

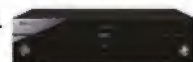
### Pioneer

**PDPLX5090**



**BDPLX71**

Including free QED HDMI lead



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Includes free delivery

### Onkyo

**TX-SR606 TX-SR876**

**TX-NR906**

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### Monitor Audio

**New Radius HD Range**

All models in stock

**Call for latest prices.**



### AV Receivers

## SAVINGS



**Yamaha RXV1900 £849**



**Denon AVR2809 £799**



**Marantz SR6003 £699**



**Pioneer VSXLX51 £695**



**Onkyo TXSR876**  
**Please call for latest price**

### Pioneer

**VSX1018 only £399.90**



Including free Delivery

**2008 Award Winner**

### Denon

**DM37 Including Monitor Audio BR1s now only £299.90**



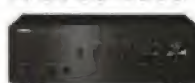
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### Yamaha

**CD-S700 £299**



**A-S700 £399**



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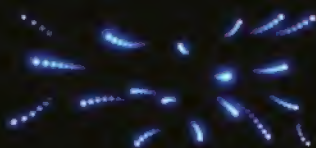
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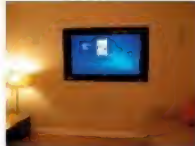
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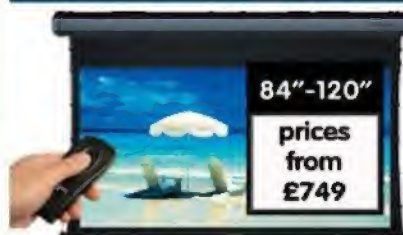
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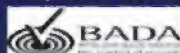
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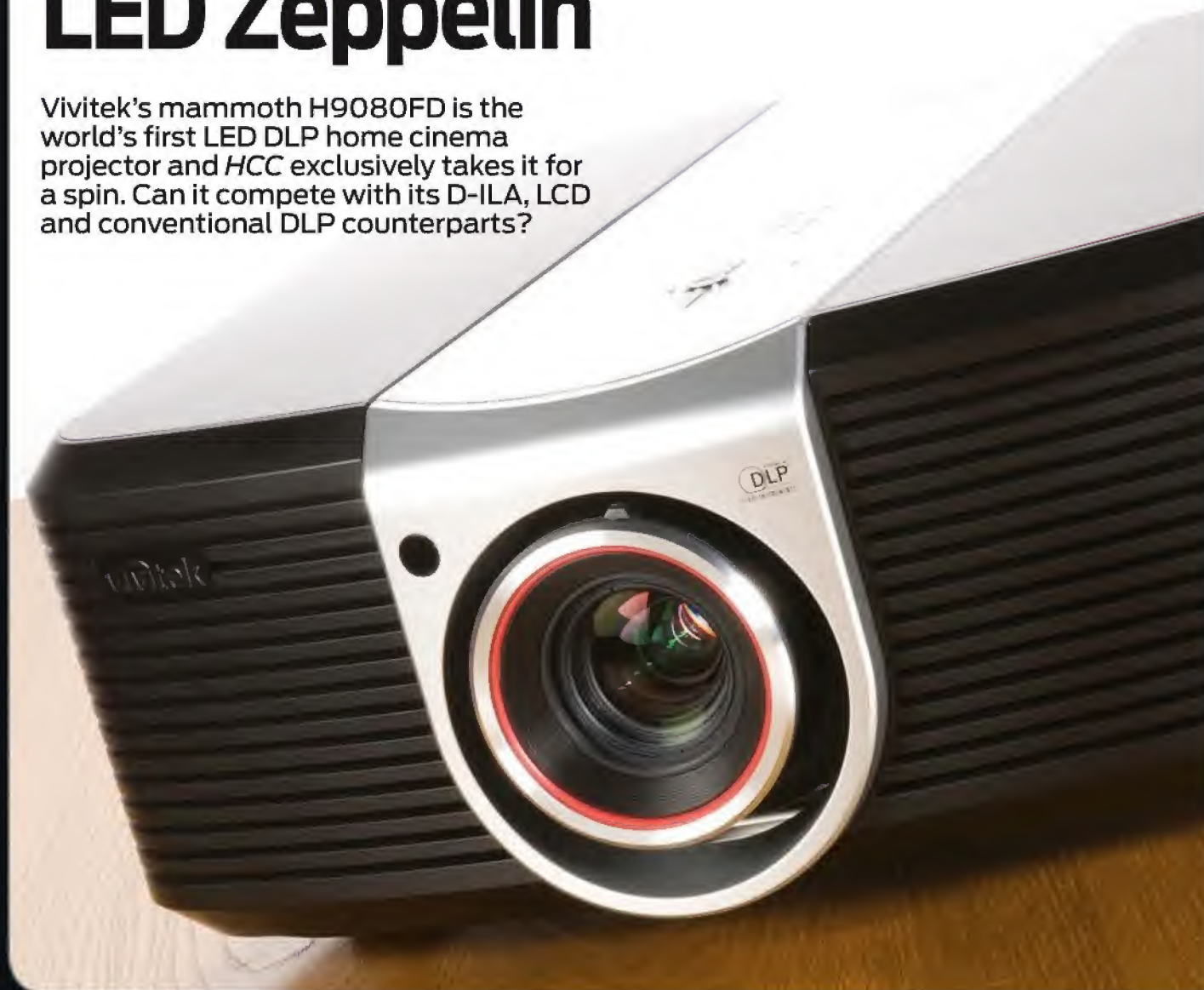
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ISSUE  
#173 ON SALE  
Aug 27

## LED Zeppelin

Vivitek's mammoth H9080FD is the world's first LED DLP home cinema projector and *HCC* exclusively takes it for a spin. Can it compete with its D-ILA, LCD and conventional DLP counterparts?



→ **Next issue's highlights** ONKYO The TX-SR807 reviewed – THX Select2 Plus-certification for less than £800 CINEVERSUM BlackWing One – an LCOS projector from the high-end specialist PVR GROUP TEST Freeview recorders have evolved – we roadtest four with a twist PLUS: All the latest news, Blu-ray/DVD reviews and more



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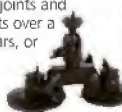
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BS850, Home Cinema Choice,  
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BS850, TrustedReviews.com,  
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